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THE AMERICAN NUMISMATIC SOCIETY

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# MUSEUM NOTES

VI



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET

NEW YORK

1954

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BROADWAY BETWEEN 155TH & 156TH STREETS  
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**PURPOSES:** The Society was founded for the collection and preservation of coins and medals and for the investigation of their history and other subjects connected therewith.

**MEMBERSHIP:** Applications for membership are welcomed from all interested in numismatics. Inquiries regarding membership should be addressed to the Secretary of the Society.

**DUES:** The annual dues for an Associate Membership are \$7.50. Issues of the *Notes and Monographs*, *Museum Notes*, *Hispanic Numismatic Series*, and *Numismatic Literature* are distributed to all members.

**PUBLICATIONS:** The *Numismatic Notes and Monographs* consist of separately issued papers, each on a single topic, of which two to four numbers appear each year. *The American Numismatic Society Museum Notes* is a publication, irregular in appearance, consisting of brief notes and papers, principally on items in the Society's collections. *Numismatic Literature* is a quarterly listing current numismatic publications with abstracts of their content. *Numismatic Studies* is a series which accommodates works of full book length. The *Hispanic Numismatic Series*, published in co-operation with the Hispanic Society of America, consists of publications devoted to the coinage of the Iberian Peninsula, and is based on the collections of the Hispanic Society.

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**THE AMERICAN NUMISMATIC SOCIETY  
MUSEUM NOTES**

THE AMERICAN NUMISMATIC SOCIETY  
MUSEUM NOTES

is a publication consisting principally  
of brief notes and papers on numis-  
matic items in the Society's collection.  
It is prepared by the Staff and Members  
of The American Numismatic Society.



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THE AMERICAN NUMISMATIC SOCIETY  
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## ANCIENT MONEY AND MODERN COMMENTATORS

The study of money as an essential part of the economic life of the ancient world is handicapped by an almost universal misunderstanding of commentators on it of the function and nature of money. Such factors in the history of any period as debasement of the coins, depreciation in purchasing power of the coinage, inflation of the money supply, are all properly parts of such a study. However, in the vast majority of publications that mention these factors, they seem to be misunderstood, and their effect on the economic activity of the period misinterpreted. Numerous examples of misinterpretation and misinformation may be found in recent books, as for example in Volume V of *An Economic Survey of Ancient Rome* (Tenney Frank, ed.).<sup>1</sup>

Changes in ancient monetary systems were as frequent as in the modern world. Such changes, whether in ancient or modern times, have come as a result of economic pressures. Currencies have accurately reflected changes in the financial misfortune. Changes in currency seem never in themselves to have been the initial cause of financial distress.

<sup>1</sup> Page 35: confusion between gold and silver coins; error in amount of alloy; error in weight of silver coin.

Page 90: 1/41 of Roman pound is 7.79 gr.; 1/84 th is 3.90 gr.

Page 91: 1/45 th is 7.28 gr.; the "real ratio" is not 1:13; 1/46 th is 7.12 gr.

Page 92: a wrong quotation from Dio.

A few other illustrations may be given:

Lot, *End of the Ancient World*, 56, "the gold piece has from 50 to 60 per cent base metal." Apparently the author has confused the silver with the gold coin.

*Cambridge Ancient History*, XII, 226, "about 260 the manipulation of the silver content of the double denarius that had been going on for two centuries." This coin had been first struck some 35 years previous.

*Cambridge Ancient History*, XII, 262, "the aureus was reduced in size. . . . in the years down to A. D. 256 to approximately a third of its original form. . . ." This assumes that we know, which we do not, the weight of the coin that represented the gold unit in 256.

Parker, *A History of the Roman World from A.D. 138 to 337*, 278, of Diocletian: "white-coated bronze coins in three denominations." Compare Lewis, *A Hoard of Folles from Seltz* (NNM 79), 17 ff.

From the time of its invention, money has had but one prime reason for existence, and that is the economic one. In the ancient world, as in the modern, money served definite purposes. In the first place, it provided the means by which goods and services could be valued in terms of a common medium and hence more easily exchanged. In serving thus as a medium of exchange, the utility of money was not affected by debasement, depreciation or inflation. Money could, and did, fulfill this purpose regardless of whether the unit quoted was one or a million.

As a second function, money serves to provide the means by which the spending of today's resources may be postponed to the future. The holder of money has the option of spending it now or later. Obviously if this option is to be practical value, the purchasing power of money expressed in terms of goods and services needs to be reasonably stable. Unfortunately for the thrifty, this condition has never prevailed for any long period of time, for every currency has finally lost its original purchasing power. The causes that bring about this change are basically the same. Essentially it is an increase in the quantity of money in circulation that is disproportionate to the increase in the supply of goods or services.

Before mentioning some of the reasons why the supply of money increases more rapidly than the economic need for money, it seems desirable to comment briefly on the nature of money.

It is obvious that before any state strikes coins it must definitely define the weight of the piece of metal that is to be its monetary unit. Thus, in that part of the Greek world that used silver as its measure of value, that fraction of a pound known as a drachma was chosen as the monetary unit. Because the coin weighed a drachma, it acquired that name and kept that name regardless of later changes in weight. When Rome made gold the monetary measure of value, individual coins were struck as definite fractions of a pound. This coin was commonly called an aureus, a term descriptive of the material but not the weight. A single coin could not properly satisfy commercial needs, so both those states that had chosen a silver coin as their chief unit and those that chose a gold coin found it necessary to issue fractional pieces. Generally these were struck in metal of lower intrinsic value, but each was struck as a definite fraction of the primary coin. This

relationship between the different coins which was fixed by government edict was changed but slowly. Thus regardless of its size, its weight, or its purchasing power, the Roman imperial mint always considered the sesterce as one quarter of a denarius. Misunderstanding of these basic facts is shown in the sentence, "now that the value of money was fixed by authority, not by the free play of economic forces, the foundations of the old individual form of life were destroyed."<sup>2</sup>

In the period before the complete unification of the Mediterranean world by Rome, each of the states that struck coins had chosen either gold or silver as the metal in which its monetary unit was issued. No state apparently used both gold and silver in which to strike its monetary unit, so any suggestion of similarity to recent attempts at bimetallism seems unfounded.<sup>3</sup>

Coinage was entirely the prerogative of the state, both the amount and the kinds of coins being determined by it. The coins themselves prove that in striking different metals, the mints followed definite predetermined mint ratios. These mint ratios need have no relation to the market ratios of the metals beyond being so set that the value of the cheaper metal or metals in the form of coins was greater than in the form of bullion. Thus a recently published papyrus of A. D. 301, if correctly interpreted, indicates that the good silver coins of Diocletian passed in the form of coins at about three times their value as bullion.<sup>4</sup>

The mint valuation placed on the silver coin, where that was the head of the monetary system, or on the gold coin in similar position, obviously fixed the valuation of the respective metals. Thus if a mint

<sup>2</sup> *Cambridge Ancient History*, XII, 221 on the time of Gallienus. Equally misleading is the statement on p. 220: "The Roman denarius had for centuries possessed a value based not on State regulation but on its intrinsic worth, . . ." The first sentence quoted obviously is concerned with the purchasing power of money, not with the mint valuation of the coins.

<sup>3</sup> In order to maintain a certain weight of either gold or silver as its monetary unit, a government must either permit free coinage of that metal to all producers, or must be willing to buy at its mint valuation all of that metal offered to it. In a state on a bimetallic system, the government must do the same for two metals in the effort to maintain equality between them. As costs of producing the two metals vary, the relative market value (not the mint valuation) changes and one or the other metal disappears from the currency system.

<sup>4</sup> Pap. Antinoopolis 38. However, there is much uncertainty about the meaning of this document.

in a country on the silver standard said that a coin minted at one-ninety-sixth of a pound was to be called a drachma then the value of the metal had been fixed at 96 drachmas a pound. Similarly where gold was the head of the system, the minting of a gold coin unit weighing one-fiftieth of a pound fixed the value of gold as 50 of those units a pound. This meant that the price of either gold or silver, where either one was the head of the monetary system, was definitely fixed. This does not imply that the purchasing power of the gold or silver, where they were the heads of the monetary system, was fixed. Whether the gold coin could purchase more or less of other goods depended on factors entirely separate from the price set on the gold coin by the mint.<sup>5</sup>

The purchasing power of the gold or silver monetary unit is something entirely distinct from the mint valuation of the metal concerned. That mint valuation can be maintained by the state's acquisition of all of that particular metal offered it at that price. Should cost of production rise above the mint price the chances are that the weight of the gold or silver unit would be reduced, thereby increasing the mint value of a pound of that metal. Thus the change in the gold coin by Caracalla increased the price of gold from 45 to 50 aurei a pound.

The copper subsidiary coins struck as fractions of a system on the silver standard, or the silver and copper subsidiary coins struck as fractional pieces of a system on the gold standard maintained their tariffed values not because of their intrinsic worth but because of the implied right of exchange into coins of more valuable metal and because of belief in the ability and willingness of the issuing body to accept them at face value for obligations owed to it.

This being true, the bullion value of the subsidiary coins was a matter of no practical importance. This point is overlooked by most commentators.<sup>6</sup> Trouble could come only when the possibility of conversion was limited by action of the government or by an unbalanced ratio in the supply of the different metals, or by the unwillingness of government to accept the subsidiary coins at their tariff value. So, to mention one concrete example, the increasing use

<sup>5</sup> Kemmerer, *Gold and the Gold Standard*, 139 ff.

<sup>6</sup> As Parker, *op. cit.*, 97; Besnier, *L'Empire romain*, 63; Homo, *La Haut Empire*, 626.

of alloy in the Roman silver coins from Nero to Septimius, a so-called debasement unaccompanied by any apparent change in the relative supplies of gold and silver in circulation, had nothing to do with the ultimate collapse of the Roman monetary system. The Roman government seems not to have changed the quality of its gold coin; and until early in the third century, it seems to have maintained a satisfactory ratio between the supplies of gold and silver coins in circulation. As there was the practical possibility of exchange into the gold coin, the value of the subsidiary coinage was maintained. Probably the basic reason for the reductions in the weight of the standard gold coin by Nero, Trajan, and Caracalla, and the resultant increase in the mint valuation of gold bullion is to be connected with increasing costs of production.<sup>7</sup> The changes in weights during and after the reign of Gordian III are, however, due to other causes. Throughout the period of their rule in Spain, the Visigoths at the mint in Toledo maintained the weight of their gold coin with remarkable consistency, but did not maintain the purity of the gold. In the later period of their rule the amount of alloy seems to have increased from reign to reign. In the mediaeval period, the case of Philip IV of France is well known. That monarch arbitrarily lowered in successive years the bullion value of his monetary unit. The practice which brought him the nickname "Counterfeiter" was abandoned when those from whom he had to borrow forced him to give up this method of making a profit on the coinage.

As has just been said, the so-called debasement of the subsidiary coinage had, considered by itself, nothing to do with the depreciation of the coinage. This point is missed in the following sentence: "because of the terrible debasement of the coinage, the receipts from taxation could not cover the needs of the state."<sup>8</sup> If one assumes that the writer meant "debasement" rather than "depreciation," this is

<sup>7</sup> *Econ. Survey*, V, 35 has the curious sentence: "deflation had been carried so far by Tiberius that gold and silver were overvalued in the old coinage." This is in connection with Nero's reform.

<sup>8</sup> *Cambridge Ancient History*, XII, 399 apropos of Diocletian. Rostovtzeff, *Social and Economic History of the Roman Empire*, 380 is somewhat similar: "Looking round for new resources, the state did not shrink from pure forgery by debasing its currency, which the ever-increasing use of alloy made more and more worthless."

equivalent to saying that governments cannot collect in paper money, which has no intrinsic value at all, enough revenue to pay their bills.

Money depreciates when its value, expressed in terms of goods or services, decreases. This depreciation always comes as a result of influences that affect the money supply. Chief among these influences is the phenomenon we speak of as inflation, a situation where an increasing supply of money is disproportionate to the increase in the commercial need for money. This relatively excessive supply of money is caused by governmental misfortune or mismanagement, by governmental inability or unwillingness to raise by taxation sufficient revenue to pay its bills. All governments, whether ancient or modern, have bridged a gap between expenditure and income by increasing the amount of currency, metal in the case of ancient governments, paper in the case of modern. Modern governments in the face of continuing deficits have stopped the coining of gold and have prohibited in some cases the private possession of gold. Ancient governments generally did not go so far; but they met their needs for money by striking increased quantities of the coins which afforded them a wide spread between face value and cost of production—namely, the subsidiary coinage.<sup>9</sup> As a case in point, the Roman government did not abandon the striking of gold coins even in the worst days of the third century.

In the fifteen years from 253 to 268, probably the darkest period in Roman history, enough different types in the gold coinage are known to average one about every three weeks for the entire period. It is obvious that if the production of silver coins by Gallienus was, say, ten times that of Septimius, there would be no saving in the amount of silver metal actually used by Gallienus unless the silver content of his coins was less than 10 per cent of the silver content of the coins struck by Septimius. This necessary relationship between volume of the coinage and the silver bullion needed for that coinage has been overlooked by those commentators who stress the shortage of precious metals in the third century.

<sup>9</sup> "The primary urge to debase the coins came from spendthrift emperors." Salmon, *History of the Roman World from 30 B. C. to A. D. 138*, 259. Caracalla, we are told by Parker, *op. cit.*, p. 123, "to give the impression of an artificial prosperity resorted in addition to a depreciation of the coinage."

In comparison with the issues of subsidiary silver during the third century, the issues of gold, however, seem infinitesimal. Government obligations obviously were paid in the subsidiary silver. It is equally obvious that from the governmental point of view these subsidiary silver coins had to be issued as definite fractions of the basic monetary unit—in this case a definite weight of gold. Various factors brought about a commercial valuation of this subsidiary coinage that differed from the governmental valuation: a) the disproportionate amount of gold and silver, with the resultant loss of any practical possibility of conversion from silver into gold; b) the decreased percentage of the outstanding subsidiary coinage that found its way into the hands of the tax collector; c) the more rapid increase in the supply of money than in the supply of goods or services that could be purchased. The fact that great sums were buried in hoards had no saving effect on the upward course of prices, for obviously the money would not be hoarded except in the expectation that a more favorable opportunity for spending it would eventually occur. Its presence in a hoard had exactly the same tendency to force prices upward that the relatively excessive demand deposits in our banks have today. An individual in the ancient world with an income greater than his immediate daily needs had that excess in the form of coins. As long as the owner kept the coins he could at any time he wished enter the market and effectively demand goods or services. Each owner might have different ideas as to the price he was willing to pay for any particular object, with the result that the market might be better stabilized than if the hoards were non-existent. Only when hoards became permanently lost through death or acts of war was the money actually out of circulation.

The increase in the supply of money disproportionate to the supply of goods is properly called inflation. High prices (or a rapid rise in prices) are not inflation, though they may be the result of inflation. Abnormally high prices can come from other causes than inflation, for instance famine or a siege. Few words are as consistently misused, both in scholarly publications and in our daily newspapers, as this.

Another common misconception is the idea that the state makes a profit when it issues debased subsidiary coins. Obviously it costs less to prepare a paper dollar than a silver dollar but this difference in cost is not profit to the government except in those cases where the paper



dollar is lost or destroyed. Money is put into circulation by being paid out for goods and services. It is received back at the same valuation by the government in payment of taxes and other levies. If the paper or debased coins can be exchanged for gold there is obviously not a profit on the transaction.

Confusion has also been caused by failure to understand methods of expressing sums of money. English practice is to express sums in terms of pounds, shillings, pence. The Greeks expressed sums of money as drachmas, obols, chalkoi. Neither method of expression gives any indication as to the actual coin or coins referred to. To the Englishman the pound may be either a gold coin or a piece of paper or 20 shilling pieces or 8 half crowns. All would be written 1 pound. The Greeks used the word drachma in places and at times when they had no such coin.

The Roman practice was more like ours, or like that of the French. Sums of money were ordinarily expressed in terms of sesterces, as we use the dollar or the French use the franc. The mention of sums such as 1200 sesterces or 900,000,000 sesterces gives no more indication of the kind of money that was actually paid than our own use of, say, \$10.71 indicates whether that sum is represented by 5 pieces of money or 1071 pieces. Rarely the Romans specified that a sum expressed as sesterces was payable in silver; but, as in our own case, payments were tendered and accepted in the coin most convenient. It may be pointed out in passing that the sum of 900,000,000 sesterces represents over 70,000,000 Roman pounds of metal (about 26,000 modern tons). Another source of confusion is disregard of the universal popular tendency to use monetary terms long after the coin itself has disappeared. The most obvious example is our own use of "penny," even though our government has never struck a coin with that name. Greeks and Romans consistently used names of coins long after the coin itself had disappeared from the monetary system—drachma, denarius, sesterce. Meanings of words changed—thus the word sesterce, originally meaning a coin of  $2\frac{1}{2}$  asses, came to mean a coin worth 4 asses. The Greek word, nomisma, originally a term applied to any coin, eventually was applied only to the gold coin. Still another source of confusion is the common misuse of such terms as debasement, depreciation, fiduciary currency, fiat currency.

Thus Frank (*Econ. Survey*, V, 91) calls the reduction in coin weights by Nero "inflation." Burns (*Money and Monetary Policy in Early Times*, 425) speaking of the third century says, "the inflation of the period was mainly concentrated upon the silver coins," and again, "the general failure to depreciate the gold money must indicate that the government was never able to enforce the acceptance of gold at its face value." Salmon (*A History of the Roman World from 30 B. C. to A. D. 138*, 182) states that Nero depreciated the gold coins and debased the silver coins. Rostovtzeff (*Social and Economic History of the Roman Empire*, 463) speaks of "the foolish policy of the emperors in systematically depreciating the currency" or again (*ibid.* 419), "the depreciation of money was closely connected with the rise in the prices."

As long as conversion into coins of more valuable metal was readily possible, it made no difference in the value of the subsidiary coinage whether it was pure silver, or a piece of paper with no intrinsic value. Subsidiary coinages acquired value of their own only when their value as bullion exceeded the value assigned them by the mint; and under such conditions, they would not be minted.<sup>10</sup>

Fiduciary or fiat currencies may be said to be those based on public confidence. All coins except the particular one at the head of a monetary system—and except for the more or less brief attempts to operate a bimetallic system—may properly be described as fiduciary coins. A coin of pure silver, if struck at a mint ratio of 16 : 1 when the market ratio is 30 to 1, is as truly fiduciary as a silver washed copper coin intended to pass as its equivalent. The market valuation of the two coins may differ if they come into competition with each other, but both are essentially fiduciary or fiat or token coinages.

LOUIS C. WEST

<sup>10</sup> See Burns, *Money and Monetary Policy in Early Times*, 306: "until at last copper pieces became full-value coins, and later were actually worth more as metal than as coin;" or *Economic Survey of Ancient Rome*, IV, 897: "the bronze which had been a token or credit currency began to be in demand as something of real value."



## A COUNTERMARKED HOARD FROM BÜYÜKÇEKMECE

(SEE PLATES I-VII)

In the summer of 1953 the Society acquired thirty-six silver coins from a hoard which, according to a reliable source, had been found the year before at Büyükçekmece, a town on the Propontis about eighteen miles west of Istanbul. The appearance of the pieces is such as to leave no doubt that they come from a single deposit, and the composition of the group supports the given provenance. However, the lot of coins purchased by the Society is only about a third of the known hoard. While this study was in preparation, the dealer from whom the thirty-six coins had been obtained sent rubbings of another thirteen specimens, reputedly from the same find. Shortly thereafter, Henri Seyrig most generously provided information on an additional seventy-one pieces: thirty-one acquired by him in September of 1952, thirty-four seen by an Istanbul collector in November of 1952 and presumably now in commerce, and six from the stock of a European dealer. The hoard, then, comprised over one hundred coins, but there is no certainty that this record of its contents is complete.<sup>1</sup>

<sup>1</sup> The five lots total 120 coins. Among the rubbings sent to the Society are three uncountermarked Antioch tetradrachms of Demetrius I of Syria (E. T. Newell, *The Seleucid Mint of Antioch*, Nos. 112, 113, 130). These pieces are so much later in date than any of the other hoard coins that one is, I think, justified in regarding them as intrusions. With respect to the remaining 117 specimens, there is a slight possibility of duplication. Sixteen of the tetradrachms seen by the Istanbul collector (1 autonomous Byzantium, 1 Lysimachus, 2 Antiochus and 12 Alexanders) could conceivably be pieces which were subsequently offered to the Society.

This article owes a great deal to the kindness of M. Seyrig who has placed at my disposal descriptions and photographs of the coins which he had purchased and intended to publish. In a letter accompanying the record, he outlined some of the deductions he had drawn from his hoard group, and I was very pleased to find that our conclusions regarding the  $\kappa$  mint and its countermark types are substantially in agreement.

I should like also to express my sincere appreciation to Mr. Sydney P. Noe for suggestions and advice on various problems connected with the Alexanders.

Five octobols of Byzantium and five Alexander type drachms are included in the hoard, which otherwise consists entirely of tetradrachms: autonomous strikings of Byzantium and Calchedon, regnal issues of Demetrius Poliorcetes, Attalus I and the earlier Seleucid kings, and coins with the types of Alexander and Lysimachus. With the exception of the autonomous money of Byzantium and Calchedon, every piece has a circular countermark on the obverse.

The hoard is said to have been discovered very close to the sea which undoubtedly accounts for the advanced crystallization of all specimens. Over-cleaning has further damaged the ANS pieces, so that they are in a uniformly miserable state of preservation. In many cases the surfaces are so eroded that a mint attribution, particularly for the Alexander and Lysimachus types, could be made only after a specimen from the same obverse die had been found in the Society's collection. The condition of the coins renders their weights of no significance and makes it difficult to estimate wear in terms of the length of time in circulation, so that any conclusions as to relative chronology and burial date must be tentative. In fact, were it not for the countermarks, there would be scant justification for the acquisition and publication of this sorry lot of coins.

Since the counterstamping is the most important feature of the hoard, the arrangement of the eighty-four coins in the catalogue is by countermark varieties. A summary listing by coin types is given in an appendix, which includes not only the catalogued issues but also the thirty-three commerce specimens of uncertain classification. All pieces are tetradrachms unless otherwise indicated.

The illustrations are of coins belonging to Seyrig and to the Society; of the first three Byzantine issues, the only ones represented in both collections, No. 1 is an ANS coin while Nos. 7 and 13 are Seyrig pieces. Weights and die positions are listed for the ANS coins. Legend forms for the Alexanders are given only when they deviate from the standard version with ΑΛΕΞΑΝΔΡΟΥ to the right of the seated Zeus Aetophoros. Without exception, the Lysimachi have the seated Athena reverse with ΒΑΣΙΛΕΩΣ to right and ΑΥΣΙΜΑΧΟΥ to left.<sup>2</sup>

<sup>2</sup> The abbreviations used in the catalogue have reference to these publications and collections:

## BYZANTIUM

Head of Demeter r., veiled and wreathed with grain.

*Rev.* Poseidon seated r. on rocks, holding aplustre in raised r. and trident over l. shoulder.

- 1-6. √Y above ⚡ in r. field; ΕΠΙΕΚΑΤΟΔΩΡ in exergue. Gr. 12.68, 12.40, 12.67, 11.82. All ↑ (4 ANS; 1 Seyrig; 1 Commerce)
- 7-12. √Y above ⚡ in r. field; ΕΠΙΜΕΝΙΣΚΟΥ in exergue. Gr. 12.47, 11.67, 12.42. ↗↑↑ (3 ANS; 1 Seyrig; 2 Commerce)
- 13-16. √Y above ΣΙ in r. field; ΕΠΙΣΦΟΔΡΙΑ in exergue. Gr. 12.49. ↑ (1 ANS; 3 Seyrig)
- 17-19. As above but ΣΙ in l. field; √Y in r. (2 Seyrig; 1 Commerce)
- 20-23. √Y above ⚡ in r. field; ΕΠΙΜΑΤΡΙΟΥ in exergue. (4 Seyrig)
- 24-29. ⚡ in l. field; √Y in r.; ΕΠΙΑΘΑΝΑΙΩΝΟΣ in exergue. (6 Commerce)
30. Γ in l. field; ⚡ in r.; ΕΠΙΟΛΥΜΠΙΟΔΩΡ in exergue. Gr. 12.60. ↑ (1 ANS)
31. Details not recorded. (1 Commerce)
- 32-34. ΓY in l. field; ΜΕ in r.; ΑΝΤΙΠΑΤ in exergue. Octobols. Gr. 4.65, 4.76, 4.60. All ↑ (3 ANS)
- 35-36. ΓY in l. field; monogram in r. and magistrate's name illegible. Octobols. Gr. 4.65. ↑ (1 ANS; 1 Commerce)

ANS — American Numismatic Society Collection.

*Demanhur* — E. T. Newell, *Alexander Hoards II: Demanhur*, 1905 (NNM, No. 19). New York, 1923.

*Demetrius* — E. T. Newell, *The Coinages of Demetrius Poliorcetes*. London, 1927.

*ESM* — E. T. Newell, *The Coinage of the Eastern Seleucid Mints from Seleucus I to Antiochus III*. New York, 1938.

*Gordion* — D. H. Cox, *A Third Century Hoard of Tetradrachms from Gordion* (Museum Monographs of the University of Pennsylvania). Philadelphia, 1953.

*NNM* — *Numismatic Notes and Monographs* of the American Numismatic Society.

*Olympia* — E. T. Newell, *Alexander Hoards IV: Olympia* (NNM, No. 39). New York, 1929.

*Tyrus* — E. T. Newell, *Tyrus Rediviva*. New York, 1923.

*WSM* — E. T. Newell, *The Coinage of the Western Seleucid Mints from Seleucus I to Antiochus III*. New York, 1941.

## CALCHEDON

Head of Demeter r., veiled and wreathed with grain.

*Rev.* Apollo seated r. on *omphalos*, holding arrow in r. and bow in l. KAΛX in exergue.

37-41. ϙE (?) in l. field; ΔI in r. Gr. 11.50, 11.85. ↑↑ (2 ANS; 3 Commerce)

## PROW COUNTERMARKS

I. A small prow r., to which a dolphin, vertically downward, is attached as a terminal. ΓΥ above the prow. 7 mm.

*Alexanders*

42. Amphipolis, c. 300-294 B.C.

Λ above a torch in l. field; dolphin (?) below throne. Gr. 15.98. → (ANS)  
Coins with the Λ and torch marking are assigned to Amphipolis by Newell who regards them as belonging to the period just before Demetrius began using the mint in 294-293 B.C. (*Demetrius*, pp. 101 f.).

43. Asia Minor, second half of third century B.C.

Grain ear (?) in l. field. Dolphin terminal of countermark uncertain. Gr. 14.80. ↑ (ANS)

This piece is from the same obverse die as two ANS specimens with a grain ear in the left field. In all probability the symbol on No. 43 is the same. The issue is in a section marked "Anatolia" by Newell; its late date is indicated by the size and style of the obverse head.

44. Miletus, c. 293 B.C. *Demetrius*, pp. 59-63.

ϙI in l. field. Dolphin of countermark free behind the prow. Gr. 15.01. ↑ (ANS)

*Lysimachus*

45. Byzantium (?), after 281 B.C.

⌘ in inner l. field. Gr. 14.18. ↑ (ANS)

This seems to be from the same obverse die as a poorly preserved ANS coin. Newell's arrangement suggests Byzantium as the mint.



*Antiochus I*


46. Seleucia on the Tigris, c. 263-261 B.C. *ESM*, p. 65, 170.

Head of Antiochus I r. / ΒΑΣΙΛΕΩΣ downward r.; ANTIOXOY downward l. Apollo seated l. on *omphalos*, holding arrow in r. and resting l. on bow. ⌘ in outer l. field; ⌘ in outer r. Dolphin terminal of countermark uncertain. (Seyrig)

*Antiochus Hierax*


47. Alexandria Troas, c. 241–228/7 B.C. *WSM*, p. 341, 1580.

Head of Hierax r. with winged diadem / Reverse type of No. 46.  above  in outer l. field; feeding horse to r. in exergue. (Seyrig)


- II. A prow of intermediate size r. or l.  above and dolphin terminal.  
8–9 mm.

*Alexanders*

48. Amphipolis, c. 336–334 B.C. *Demanhur*, p. 26, 91–131.

Double head in l. field. Countermark of 8 mm., prow l. Gr. 15.11.  (ANS)



49. Magnesia on the Maeander, second half of third century B.C.

 in l. field; Maeander pattern in exergue. Countermark of 8 mm., prow r., space below obscure. Drachm. (Seyrig)

Although the Maeander pattern is not visible in the illustration, No. 49 is from the same die as a drachm in the ANS and the attribution may be considered certain. Miss Cox (*Gordion*, p. 3, 18) dates Alexanders of this type after c. 240 B.C. It was Newell's suggestion (*WSM*, p. 290) that during the wars between Seleucus II and Hierax, Magnesia was given permission to strike autonomous types; Miss Cox interprets this as including Alexanders with the Maeander pattern.



*Lysimachi*

50. Calchedon, after 281 B.C.

 (?) in outer l. field; grain ear (?) in exergue. Countermark of 9 mm., prow r. Gr. 14.40.  (ANS)

A coin of roughly the same period as No. 50 is among the pieces acquired by Newell from the Homs 1927 Hoard, which was buried c. 240 B.C. (*NNM*, No. 78, p. 134, 487 – where the burial date is given as c. 250. This is apparently an error since Newell's notation on the hoard reads "c. 240," and one of the coins from the deposit is a tetradrachm of Attalus I). Attribution of Nos. 50 and 67 to Calchedon follows Newell's tentative arrangement of his posthumous Lysimachus material.

51. Magnesia on the Maeander, c. 290 B.C.

 in inner l. field; Maeander pattern in exergue. Countermark of 9 mm., prow r., space below obscure. Gr. 16.05.  (ANS)

The date is in accord with Newell's sequence of the Magnesia strikings of Lysimachus.

*Antiochus II*

52. Seleucia on the Tigris, c. 261–256 B.C. Cf. *ESM*, p. 69, 178.

Head of Antiochus I r./ Seated Apollo type of No. 46.  in outer l. field;



monogram of outer r. off flan. Countermark of 9 mm., prow r., space below obscure. Gr. 14.98. ↑ (ANS)

III. A prow of intermediate size r. or l. ΓΥ above and dolphin terminal. Uncertain monogram below the prow. 9 mm.

*Alexander*

53. Magnesia on the Maeander, second half of third century B.C.  
✠ in l. field; Maeander pattern in exergue. Prow r., Η (?) below. (Seyrig)  
For the dating, see No. 49 above.

*Antiochus II*

54. Ecbatana, 261–246 B.C. *ESM*, p. 193, 543.  
Head of Antiochus II r./ Apollo type similar to No. 46. ⚙ in upper l. field; ⚙ in lower l. above forepart of horse feeding l. Prow l., ⚙ (?) below. Gr. 14.32. ↓ (ANS)

IV. A prow of intermediate size r. ΓΥ above and dolphin terminal. ⚙ below the prow. 10 mm.

*Alexanders*

55. Macedonia, time of Philip III.  
Boeotian shield in l. field. (Seyrig)  
This issue and No. 82 below belong to a group of coins whose attribution is not definitely established. From the arrangement of Newell's material, it is evident that he thought they were struck at a northern Greek mint, possibly Pella. The style of No. 55 seems to place it in the reign of Philip III.

56. Uncertain mint.  
Details illegible. Prow countermark with ΓΥ above and ⚙ below. Drachm. (Seyrig)

*Seleucus II*

57. Antioch, c. 240–232 B.C. *WSM*, p. 122, 991.  
Head of Seleucus II r./ ΒΑΣΙΛΕΩΣ downward r.; ΣΕΛΕΥΚΟΥ downward l. Apollo standing l., leaning on tripod and holding arrow in extended r. Left field broken; ⚙ in outer r. (Seyrig)

V. A prow of intermediate size r. or l. ΓΥ above and dolphin terminal. ⚙ below the prow. 8–9 mm.

*Alexander*

58. Uncertain mint.  
Details illegible. Prow countermark with ΓΥ above and ⚙ below. Drachm. (Seyrig)

*Lysimachi*

## 59. Perinthus, after 281 B.C.

Joined foreparts of horses in inner l. field; monogram in exergue illegible.

Countermark of 9 mm., prow r. Gr. 15.57. ↑ (ANS)

This type is assigned to Perinthus by Newell.

## 60. Cius (?), after 281 B.C.

M in inner l. field; crescent in outer r.; bow in exergue. Countermark of 9 mm., prow l. Gr. 15.62. ↑ (ANS)

The style of No. 60 is comparable with that of some Lysimachene issues of Cius, but I have been unable to find a parallel for the obverse die in the ANS. Coinage attributed by Newell to Cius normally has a club in the outer l. field and a bow in a case in the exergue.

*Attalus I*

## 61. Pergamum, 241–197 B.C.

Head of Philetaerus r./ ΦΙΛΕΤΑΙΡΟΥ downward l. Helmeted Athena seated l. crowning the name and leaning with l. on shield. Uncertain symbol to l. of inscription; bow in r. field. Countermark of 8 mm., prow r. Gr. 15.45. ↑ (ANS)

*Antiochus Hierax*62. Lampsacus (?), c. 241–228/7 B.C. Cf. *WSM*, Pls. LXX–LXXI.

Head of Antiochus II (?) r./ Seated Apollo type of No. 46. ⚡ (?) in outer l. field; ΙΣ in exergue. Countermark of 8 mm., prow r. (Seyrig)

The attribution of this coin is probable but not certain. Neither obverse die nor reverse lettering is given in *Western Seleucid Mints*. The distinctive style of the obverse head on No. 62 seems to me to find its closest parallel in the Hierax issues of Lampsacus. The ΙΣ marking in the exergue, although not recorded for Hierax, does appear on the Lampsacus striking of Antiochus II.

VI. A large prow r. ΠΥ above and dolphin terminal. Ξ below the prow. 11 mm.

*Alexanders*

## 63. Greece, third century B.C.

Bow in lower l. field. (Seyrig)

Newell's material indicates a mint of Greece proper, possibly located in the Peloponnesus.

## 64. Mesembria, second quarter of third century B.C.

ΒΑΣΙΛΕΩΣ downward r.; ΑΛΕΞΑΝΔΡΟΥ downward l. Symbol and monogram illegible. (Commerce)

An ANS coin with the helmet symbol of Mesembria is from the same obverse die.

65. Abydus, c. 310 B.C.

M in l. field;  $\Gamma$  below throne. Countermark of c. 7 mm. with the small prow of Type I. Drachm. (Seyrig)

The attribution of this issue is discussed in the publication of a hoard of Alexander drachms to appear shortly in *Yale Classical Studies*, XIV.

*Demetrius Poliorcetes*

66. Amphipolis, c. 290–289 B.C. *Demetrius*, p. 109, 116.

Head of Demetrius r./  $\text{ΒΑΣΙΛΕΩΣ}$  downward r.;  $\Delta\text{ΗΜΗΤΡΙΟΥ}$  downward l. Poseidon standing l. with r. foot on a rock, holding trident with his l. hand.  $\text{☾}$  in inner l. field;  $\text{Δ}$  in inner r. field. (Seyrig)

*Lysimachus*

67. Calchedon, after 281 B.C.

Monogram at l. illegible; traces of grain ear in exergue. Broken.  $\text{↗}$  (ANS)

HEAD COUNTERMARKS

I. A small head, probably Apollo, r.  $\text{↖}$  or K before the face.<sup>3</sup> 6 mm.

*Alexander*

68. Amphipolis (?), c. 330–329 B.C. Cf. *Demanhur*, p. 28, 373–394.

Eagle's head (?) in l. field. Gr. 15.67.  $\text{↗}$  (ANS)

The obverse die of this coin is not sufficiently well preserved to make the attribution certain. Its style suggests Amphipolis, and the vague symbol of the reverse resembles the eagle's head which occurs on coins of that mint.

*Lysimachus*

69. Cyzicus (?), after 281 B.C.

$\text{Α}$  in inner l. field;  $\text{↗}$  in exergue. Gr. 14.77.  $\text{↑}$  (ANS)

This piece is from the same obverse die as one in the ANS, the latter belonging to a series for which Newell seems to have been considering a Cyzicene attribution. The type with a tunny in the exergue, published by Miss Cox (*Gordion*, p. 9, 64), may be a earlier issue of this same mint. Several fairly well-preserved specimens of the  $\text{Α} - \text{↗}$  striking are from the Homs 1927 Hoard, buried c. 240 B.C.

<sup>3</sup> The monogram or letter found on the head countermarks is often obscure due to corrosion or a weak impressing of the stamp. When the form is certain, it has been noted in the catalogue, but  $\text{↖}$  and K seem to have been used interchangeably to indicate the mint.

II. A larger head, probably Apollo, r. Hair caught up in a roll with one or more formal locks falling straight. ⋈ or K before the face. 8–9 mm.

#### *Alexanders*

70. Amphipolis, c. 336–334 B.C. *Demanhur*, p. 26, 1–55.

Prow in l. field. Countermark of 8 mm. Gr. 15.35. → (ANS)

71. Damascus (?), 322–317 B.C.

ΒΑΣΙΛΕΩΣ r. in exergue; ΦΙΛΙΠΠΟΥ downward r. ΔΑ above ⋈ in l. field; Ξ above upper rung of throne. Countermark of 8 mm. Gr. 15.05. → (ANS)

At the bottom of Newell's Damascus tray is a group of coins labelled "Damascus?", among them specimens of this issue.

72. Babylon, c. 317 B.C.

ΒΑΣΙΛΕΩΣ r. in exergue; uncertain legend downward r. Facing Helios head in l. field; KY below throne. Countermark of 8 mm., tiny letters – E P – on either side of the neck. Gr. 15.67. ↓ (ANS)

This striking, on which both Alexander and Philip legends are found, seems to belong at the end of the latter's reign.

#### *Seleucus I*

73. Tarsus, 294–290 B.C. Cf. *WSM*, p. 214, 1290.

Head of Heracles r./ ΒΑΣΙΛΕΩΣ r. in exergue; ΣΕΛΕΥΚΟΥ downward r. Zeus Nikephoros seated l. Ⓢ in l. field; Α below throne. Countermark of 8 mm., ⋈. Gr. 16.02. ↗ (ANS)

The monogram on our coin seems to have the form given above rather than the Α of the reference. Since No. 73 is from the same obverse die as *WSM* 1290 but has the monogram of 1291, it would link the two issues.

#### *Antiochus II*

74. Aegae, 261–246 B.C. *WSM*, p. 307, 1510.

Head of Antiochus I r./ ΒΑΣΙΛΕΩΣ downward r.,; ANTIOXOY downward l. Heracles seated l. on rock, extended r. resting on club. Cantharus in outer l. field; Α in exergue. Countermark of 9 mm., K. (Seyrig)

#### *Seleucus II*

75. Antioch, c. 240–232 B.C. *WSM*, p. 123, 996.

Head of Seleucus II r./ Apollo and tripod type of No. 57. ⋈ in inner l. field. Countermark of 9 mm., ⋈. (Seyrig)

III. An Apollo head r., similar to that of Type II but one lock of hair hangs straight while a second falls forward over the shoulder.

⋈ or K before the face. 7–10 mm.

*Alexanders*

76. Amphipolis, c. 300–294 B.C.

Obelisk with star above and X below in l. field; wreath below throne. Countermark of 7 mm., K. (Seyrig)

The obelisk issues of Amphipolis are roughly contemporary with the Λ and torch strikings (represented by No. 42), according to Newell's arrangement.

77. Greece, third century B.C.

Draped figure on base in l. field. Countermark of 7 mm., K. (Seyrig)

A mint of Greece proper is indicated by Newell's material, but in all probability not the same one that used the bow symbol (No. 63).

78. Dionysopolis, second quarter of third century B.C.

Bunch of grapes above ΣΩ in l. field. Countermark of 8 mm. (Commerce)

Newell attributes this type to Dionysopolis.

79. Miletus, c. 295 B.C. Cf. *Demetrius*, pp. 59–63.

⌘ in l. field; bipennis below throne. Countermark of 9 mm., K. Drachm. (Seyrig)

A stater with this monogram is from the same obverse die as one with Ⓢ; the latter issue is discussed and dated in *Demetrius*.

80. Byblus, c. 315–310 B.C.

Α in l. field. Countermark of 10 mm. 15.17. ↑ (ANS)

This coin is from the same obverse die as a fine specimen in the ANS which comes from the Abu Hommos Hoard buried shortly after 310 B.C. (*NNM*, No. 78, p. 14 and *Tyrus*, p. 10).

81. Uncertain mint, end of fourth century B.C.

Uncertain symbol in l. field; ⚡ below throne. Countermark of 10 mm., ⋈. Gr. 15.49. ↑ (ANS)

I have been unable to find a specimen from the same obverse die in the ANS. The closest parallel seems to be a coinage, struck in the name of Alexander and also of Seleucus, which Newell tentatively assigns to a mint in the Aradian *paralia* and dates c. 301–300 B.C. (*WSM*, p. 199, 1249). The symbol in the l. field on No. 81 *may* be the anchor represented on the Seleucid issue. Curiously enough, the piece illustrated by Newell has a ⋈ countermark as well as another stamp: KΑΛ above a grain ear in a oblong panel.

IV. A veiled Demeter head r.  $\kappa$  or K before the face; A behind the head. 8 mm.

*Alexanders*

82. Macedonia, third century B.C. Cf. *Olympia*, p. 8, 55.

Macedonian helmet in l. field;  $\text{€}$  below throne;  $\text{⌘}$  in exergue. Countermark with  $\kappa$ , no A behind the head. (Seyrig)

See No. 55 for the attribution.

83. Babylon, c. 326–324 B.C. *Demanhur*, p. 61, 4425–4431.

Pileus over M in l. field;  $\text{𐎠}$  below throne. Countermark with K. (Seyrig)

*Lysimachus*

84. Cius, after 281 B.C.

Club in outer l. field;  $\text{Σ}$  in inner l. field; bow in case and  $\text{Λ}$  in exergue. Countermark with K. (Seyrig)

The prow counterstamp, which occurs on at least twenty-six of the Büyükçekmece Hoard coins, indicates the mint of Byzantium. In general the type is similar to that found on the coinages of Cius, Sinope and other mints, but this prow, with its whimsical dolphin adjunct and  $\Gamma\Upsilon$  lettering, is unmistakably Byzantine.<sup>4</sup>

Although the basic representation remains constant, there is considerable diversity in details. The prows are of three sizes: a small compact variety without monograms, a larger type with or without monograms and a still larger type with  $\text{Ξ}$ . From this division one would logically assume an orderly evolution over a period of time, but such seems not to have been the case. The coins of the hoard range from the earliest years of Alexander III to the reign of Attalus I, with no perceptible correlation between date of striking and countermark variety. On both the early and the late issues, there are stamps with small and with large prows, with and without monograms. The monograms themselves offer even more precise evidence.

<sup>4</sup> The dolphin is visible on most of the hoard pieces, but the rendering is much clearer on an ANS Alexander, apparently an imitation of a Sidon issue of the year 24 (PLATE V, B). As for the marking above the prow, the form of the first letter is invariably  $\Gamma$  on all well-preserved countermarks. In the Berlin catalogue (*Beschreibung der Antiken Münzen*, I, p. 145), von Sallet records countermarked Alexander drachms with  $\text{ΓΥ}$  and  $\text{ΓΥ}$ . It is possible that some of the corroded specimens in our hoard were similarly inscribed.

An unusual variation of the lettering, with BY instead of  $\Gamma\Upsilon$  over the prow, appears on a Philip III tetradrachm of Aradus in the ANS (PLATE V, C).

It is highly probable that these subsidiary markings indicate the officials responsible for validating the currency and, furthermore, that each monogram is to be associated with a single person rather than with several magistrates having the same or similar names. The limited number of monograms recurring on so many of the hoard coins is significant, as is the fact that the prow of largest size in a distinctive 11 mm. circle appears only with the marking  $\Xi$ . Moreover, in one instance and possibly in another, the countermarks found on early and late issues are from the same die. The  $\Xi$  stamp used on the Calchedonian Lysimachus of our hoard (No. 67) is identical with that found on a drachm of Colophon in the ANS (PLATE V, A). The latter coin dates shortly after the death of Alexander, *c.* 320 B.C.; the former is a posthumous Lysimachus of the mid third century or even later. Similarly, the countermarks with  $\text{N}$  occurring on Nos. 55 and 57, if not from the same die, are so close in style as to be certainly contemporary. No. 55 cannot be much later than the reign of Philip III; No. 57 is a Seleucus II issue of *c.* 240–232 B.C.

It follows, then, that if each monogram denotes the tenure of a single magistrate, the latest coin in each group is an approximate *terminus post quem* for the application of all the stamps with that monogram. The  $\Xi$  and  $\text{N}$  stamps discussed above are found on coins of the middle of the third century or later.  $\lambda$  was used on an issue of Attalus I, on a coin of Hierax and on several late Lysimachi. The two uncertain monograms — H (?) and  $\text{N}$  (?) — occur respectively on a Magnesia Alexander of the second half of the third and on an Antiochus II striking of 261–246 B.C. All of the monogram countermarks of the Büyükçekmece Hoard would seem to have been applied in the latter part of the third century B.C.

In the case of the countermarks without monograms, the evidence is less satisfactory. Some of the stamps are weakly impressed or poorly preserved so that the space below the prow is obscure, and one cannot be sure that a monogram was never part of the design. However, No. 50, a posthumous Lysimachus of Calchedon, has the prow of intermediate size without a monogram below. A small prow, also unmarked, appears on an Asia Minor Alexander (No. 43), which is of the style and fabric associated by Newell with the middle of the third century (cf. *Olympia*, Pl. IV, 72). Beneath the small prows

found on issues of Antiochus I and Hierax, I can see no trace of a monogram, but the condition of the counterstamps precludes certainty.

It may well be that these countermarks without monogram represent a somewhat earlier development, but it is doubtful that any considerable period of time intervened between their first appearance and the adoption of the monograms. And it is only the presence or absence of the monogram, not the size of the countermark type, which can be regarded as having any possible chronological significance. The small prow which appears without monogram on Nos. 42–47 is also used on No. 65, an Abydus drachm of c. 310 B.C., but on the last coin it has the  $\Xi$  monogram normally associated with the over-sized prow in an 11 mm. circle. One might explain this smaller representation as a concession to the size of the coin were it not that another drachm (PLATE V, A) is impressed with the larger counterstamp.

Before any attempt is made to suggest a more exact dating for the prow countermarks, it might be well to consider the second group of stamps, which, because of their representation in the hoard, must clearly be brought into some relationship with those of Byzantium. The general type with a head facing right and  $\kappa$  or K in the right field is a known variety, discussed in some detail by Pick, by Regling, and more recently by Stefanelli-Clain.<sup>5</sup> In all three publications the head is described as that of an unveiled Demeter wreathed with grain, and the KA of the monogram is identified with the mint of Callatis. From the evidence of the Büyükçekmece Hoard, it seems certain that this attribution is wrong, and that there is a greater variation in the type than has hitherto been supposed.

Leaving for a moment the question of the mint, one finds at least three distinct head types associated with the  $\kappa$  monogram. First, there is the veiled female head, indisputably Demeter, which appears on Nos. 82–84. This is a comparatively rare type. It was unknown to Pick, Regling and Stefanelli-Clain, and it occurs on only one specimen in the ANS, a late fourth century Alexander from Carrhae.

<sup>5</sup> B. Pick, *Die Antiken Münzen Nord-Griechenlands*, I. 1, pp. 88f.; K. Regling, "Neue Königstetradrachmen von Istros und Kallatis," *Klio*, 1929, pp. 297–300; V. Stefanelli-Clain, "Contributo allo studio delle monete di Callatis," *Numismatica*, 1947, pp. 3–7.



A second type shows a youthful unveiled head wreathed with grain, the hair hanging in two formal locks over the nape. The grain wreath indicates one of the Eleusinian deities: Demeter again or possibly Persephone since the representation is so different from the Demeter type cited above. A very clear impression of the unveiled Demeter or Persephone head was published by Pick in 1898 (*AMN-G*, I.1, Pl. I, 19 — a better illustration than our PLATE V, G from a poor cast of the same coin). It seems likely that this fine counterstamp influenced not only Pick but later numismatists as well, so that all unveiled heads of the  $\kappa$  mint became identified with Demeter. Actually the type, like that of the veiled Demeter, is apparently rare. No coin in our hoard has this head, and there are only two specimens among the coins and casts of the ANS (an Alexander tetradrachm in the Athens Museum and an Alexander drachm in the ANS) which definitely belong in the same category as Pick's coin, the distinctive projecting awns of the wreath being visible even though the grain ear itself is not clear. It is at least a reasonable assumption that some of the unveiled Demeter heads recorded from poorly preserved countermarks are in reality examples of a third head type, found on fourteen or more of the hoard coins and on a number of ANS specimens.

This third type, like the second, is unveiled. The hair is arranged in a roll with formal locks falling over the neck. In some cases the curls hang straight; in others, one lock is brought forward over the shoulder in a fashion strongly reminiscent of the Apollo representations on Seleucid issues and elsewhere. There is definitely no trace of a grain wreath; in fact on most of the coins there is no indication of a wreath of any description. One would hesitate to describe the type as unwreathed were the evidence derived solely from the hoard coins, but a well-preserved tetradrachm of Lysimachus from the Mowat Collection (PLATE V, E) offers certain proof that a wreath was never engraved on that particular countermark. There is, however, an Amphipolis Alexander in the ANS (PLATE V, F), similar in reverse type to No. 42, which shows a delicately-rendered laurel wreath just above the roll of hair, and a few of the hoard pieces (notably No. 72) have traces of what seems to be a similar laurel band.

The head with hair drawn forward over the shoulder, which appears on Nos. 76–81 and possibly No. 68 of the hoard, seems clearly intended

as a representation of Apollo.<sup>6</sup> As for the type with straight locks, found on Nos. 69–75, there is less certainty. Seyrig, in commenting on the difference in the rendering of the two heads, suggests Artemis as a possibility for this second variety, but Artemis as a coin or countermark type is customarily depicted with a quiver at the shoulder. Since the attribute is not present in this case, it seems to me that the association with Artemis is somewhat tenuous and that an Apollo identification is preferable. The god is diversely portrayed as a coin type, sometimes with a lock thrown over the shoulder but more often with hair hanging straight; it would not be surprising to find a similar variation in the countermark type.

Of the three different heads used with the  $\kappa$  monogram—an Apollo with or without a laurel wreath, a veiled Demeter, and an unveiled Demeter or Persephone with a grain wreath—only the first is well represented in the Büyükçekmece Hoard. The veiled Demeter appears on three coins, but the unveiled Demeter or Persephone is not included, either because the stamp belongs to a different period or because it was not extensively used. The  $\kappa$  counterstamps which do occur on our coins are not as revealing as are those of Byzantium since there are no die identities among them and no monograms. Yet the analogies between the two groups of countermarks are so striking, particularly with respect to the range of the coins on which they were impressed, that there is every justification for considering the head types roughly contemporary, not only with each other but with the prow markings.

At this point mention should be made of a group of countermarks with KAΛ, usually associated with the  $\kappa$  stamps and, like the latter, assigned to the mint of Callatis. The commonest variety, KAΛ above a grain ear in an oblong panel, occurs either alone or in conjunction with a  $\kappa$ —head countermark (PLATE V, D and G). A second type is a circular countermark with KAΛ below an Athena head. This variety is apparently very rare. Pick gives one example, an Alexander drachm in the Imhoof Collection, but he does not reproduce the coin, and I

<sup>6</sup> Seyrig also identifies the type as Apollo, and it is noteworthy that Babelon (*Les rois de Syrie*, etc., p. 4, 21) describes a countermark on an Alexander type tetradrachm of Seleucus I as a laureate Apollo head with  $\kappa$ . Pick (*op. cit.*, p. 100, 211) implies that it is in reality the unveiled Demeter type.

have been unable to locate any specimens with this marking. Finally, there is another uncommon type, illustrated by Stefanelli-Clain (*op. cit.*, p. 4, fig. 3), in the form of a circular stamp with KAA in a grain wreath.

These KAA stamps do not appear on the Büyükçekmece coins, and this in itself suggests that they belong to a different mint. Furthermore, the oblong KAA countermark seems, in some instances at least, to be earlier than the  $\kappa$  — head type.<sup>7</sup> Seyrig notes that on an Alexander drachm in his collection (PLATE V, D) "the cavity of the oblong stamp has been slightly, but unmistakably, invaded by the metal when the other was applied." As he points out, if both KAA and  $\kappa$  countermarks come from the same mint, one would expect to find the KAA variety, as the earlier stamp, represented in the hoard, but if on the contrary they come from different mints, the absence of the one would not be strange. When one considers also the difficulty in explaining two counterstamps of the same town on silver coinage, it becomes increasingly evident that two mints are involved: one, which may be Callatis, using KAA and the other,  $\kappa$ .

Before attributing the KAA and  $\kappa$  counterstamps to the Black Sea port of Callatis, Pick and Regling considered Calchedon as an alternative but concluded, as had earlier numismatists, that Callatis was the more likely mint for both varieties. The present hoard, however, provides almost certain proof that the  $\kappa$  stamps were applied not by Callatis but by Calchedon. The find was made near Istanbul. It is predominantly a collection of coins struck or validated in that immediate region: 36 autonomous coins of Byzantium, 5 of Calchedon, and 26 foreign issues countermarked by Byzantium. It is scarcely conceivable that the remaining 17 counterstamped pieces, all marked  $\kappa$ , should belong to Callatis rather than to Calchedon, Byzantium's neighbor and the source of some of the autonomous tetradrachms of the hoard.

To a certain extent the customary identification of all head types as representations of Demeter has influenced the attribution of the stamps to Callatis. Regling, noting that the Demeter cult was associated with both Calchedon and Callatis, made his choice primarily

<sup>7</sup> Regling describes it as later but gives no more explicit reason for his conclusion than "*technischen Umstände.*"

on the evidence of provenance although, as he himself indicates, there is no certainty that all or even most of the countermarked pieces reported from Roumania were actually found there. It is undoubtedly true that Demeter and her grain ear attribute appear on the coins of both cities, though if one considers the coinages as a whole, the goddess would seem more closely connected with Calchedon than with Callatis, where Heracles, Dionysos and Athena are given greater prominence. With the identification of one of the heads as Apollo, the evidence of types definitely favors Calchedon. One of the obverse heads on its early silver coinage is tentatively described as Apollo. Somewhat later, the Demeter association is introduced in the form of a grain ear below the standing bull. The next autonomous issues, represented by Nos. 37–41 of our hoard, combine the Demeter and Apollo types. At Callatis on the other hand, the obverse type of the silver is invariably a Heracles head, a natural choice for a colony of Heracleia Pontica.

Perhaps an equally weighty though less tangible argument in support of a Calchedonian origin for the ⋈ countermarks is to be found in the geographical proximity of Calchedon and Byzantium and the parallel development of their coinages. The fourth century silver issues of the two mints are strikingly similar: a heifer standing on a dolphin with ∇Υ, and a bull on a grain ear with KAΛX. At Byzantium, and presumably at Calchedon as well, the autonomous silver stopped after Philip's siege of the city in 340/339 B.C. Alexander and Lysimachus did not strike at either place, but there are third century posthumous Lysimachi attributed by Newell to both mints. During the latter part of the fourth century and for most of the third, the two cities would seem to have been dependent for silver upon these local Lysimachene issues and upon foreign coins circulating in the area. Toward the end of the century autonomous silver reappears at both Byzantium and Calchedon, and again there is a notable similarity in the types chosen: Demeter head and seated Poseidon at Byzantium and Demeter head and seated Apollo at Calchedon. These third century coins are represented in the Büyükçekmece Hoard and their condition, which is generally comparable with that of the issues of Antiochus Hierax, the latest Seleucid coins in the find, indicates that they were struck at about the same time, probably

just after the death of Hierax.<sup>8</sup> At some period in the latter part of the third century, Byzantium applied its prow countermarks to various foreign coinages. Considering the close relationship between the two mints, it is logical to assume that Calchedon, at the same time and for the same reason, impressed its counterstamps on similar foreign issues.

In discussing the head stamps, Pick proposed a date about 306 B.C. for their application. Regling, whose material included coins with the types of Lysimachus and Seleucus I, realized that some at least must belong to a later period. The Büyükçekmece Hoard indicates that the countermarks as a group were put on in the latter half of the third century. Any attempt to define their date more closely must take into consideration several strange circumstances. It is difficult to understand why, after a century or more of dependence upon foreign silver, Byzantium and Calchedon found it necessary, for a limited time only, to apply their countermarks to such issues. Furthermore, one wonders why validation was required not only for issues from distant mints but also for the posthumous Lysimachi from their own workshops. Conceivably this could have been due to a monetary crisis of some sort which necessitated a revaluation of all currency in circulation, but it seems more likely that the answer lies with the reappearance of autonomous silver at Byzantium and Calchedon after the death of Hierax. The fourth century money of both mints was struck first to the Persic and later to the Rhodian standard. These coinages stopped about 340 B.C., and for the next century the two cities relied for the most part on foreign silver of diverse types and mints, such as is found in our hoard, supplemented by Lysimachi of local origin. Without exception, these coins were of Attic weight. Byzantium and Calchedon resumed their striking of autonomous silver toward the end of the third century. At that time, instead of using the prevalent Attic standard or reverting to the Rhodian weight of their earlier issues, both mints adopted an entirely different weight system, the Phoenician. If the old Attic coins were to continue in general circulation, and presumably they would be needed since

<sup>8</sup> Head (*Historia Numorum*, pp. 268f.) dates the Byzantine pieces *c.* 221 B.C. citing Svoronos' identification of two of the magistrates found on the tetradrachms with men holding high office in Byzantium during that year.

the output of autonomous issues was apparently not heavy, some attempt would have to be made to establish their validity, for commercial and taxation purposes, in relation to the new lighter-weight Phoenician tetradrachms. Countermarking would be a feasible way of doing this.<sup>9</sup>

The association of the counterstamps with the autonomous coinage of Byzantium and Calchedon is entirely consistent with the hoard evidence insofar as it concerns the probable time of application. Moreover, it is worth noting that some of the monograms below the prow on the Byzantine countermarks could represent magistrates whose names appear on the autonomous tetradrachms. It is possible at least that  $\Lambda$  is Olympiodoros, that  $\text{M}$  is Matrios, and that  $\text{C}\Phi$  (found on a Lysimachus drachm in the ANS) is Sphodria.

As to a burial date for the hoard, any suggestion must be tentative in view of the condition of the coins. Of the issues which can be dated with reasonable accuracy, the tetradrachms of Hierax and some of the autonomous pieces show only slight traces of wear and would

<sup>9</sup> An analogous situation may explain an earlier series of Byzantine countermarks. Svoronos (*Τὰ Νομίσματα τοῦ Κράτους τῶν Πτολεμαίων*, I, pp. σις'-σιζ') publishes a group of tetradrachms of Ptolemy I and Ptolemy II, the obverses of which bear circular counterstamps with various letters or monograms within a large  $\Gamma$ . It is his belief that these stamps were applied to large gifts of money made to Byzantium by Ptolemy II *circa* 252 B.C. Since the Egyptian coins were on the Phoenician standard, it is possible that Byzantium was using countermarks to relate them to the Attic weight coinages then circulating in the city.

Pick's theory regarding the purpose of the countermarks is similar, namely that Callatis stamped regnal coins of Attic weight in order to give them a value in relation to the city's own issues, which were on a different standard. However, Head (*HN*, p. 273) identifies the weight standard of Callatis as Attic.

If the counterstamps of Byzantium and Calchedon do indeed represent an attempt to relate coinages of diverse weight standards, the mechanics of conversion must have been somewhat complicated. Both mints issued autonomous tetradrachms on a light Phoenician standard and along with them, Attic weight octobols. On the basis of silver content, one of the countermarked drachms of Alexander or Lysimachus would be less valuable by one-quarter than a new octobol, whereas a countermarked foreign tetradrachm would, by the same criterion, be about one-quarter again as valuable as a new autonomous tetradrachm. In all probability, the difficulty of maintaining a coinage of Phoenician weight in an area where the normal standard was Attic was one of the reasons for the early abandonment of these autonomous issues and the subsequent reappearance at both mints of Attic weight Lysimachi.

3\*

seem to have circulated for a relatively short time before being put into the ground. The burial may have been connected with the war between Byzantium and Rhodes in 220/219 B.C., during which Prusias and the Thracians invested Byzantium (Polybius IV. 50-51). It could equally well have occurred at a later date under circumstances of which we know nothing.

## SUMMARY OF THE HOARD BY COIN TYPES

*Byzantium* (36)

Autonomous tetradrachms.	31
Autonomous octobols.	5

*Calchedon* (5)

Autonomous tetradrachms.	5
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*Alexanders* (53)

Amphipolis, c. 336-334 B.C.	Apollo head.	(No. 70)	1
Amphipolis, c. 336-334 B.C.	Prow.	(No. 48)	1
Amphipolis, c. 330-329 B.C.	Apollo head.	(No. 68)	1
Amphipolis, c. 300-294 B. C.	Prow.	(No. 42)	1
Amphipolis, c. 300-294 B.C.	Apollo head.	(No. 76)	1
Macedonia, time of Philip III.	Prow.	(No. 55)	1
Macedonia, third century B.C.	Demeter head.	(No. 82)	1
Greece, third century B.C.	Apollo head.	(No. 77)	1
Greece, third century B.C.	Prow.	(No. 63)	1
Mesembria, second quarter of third.	Prow.	(No. 64)	1
Dionysopolis, second quarter of third.	Apollo head.	(No. 78)	1
Asia Minor, second half of third.	Prow.	(No. 43)	1
Abydus, c. 310 B.C.	Dr. Prow.	(No. 65)	1
Magnesia, second half of third.	Prow.	(No. 53)	1
Magnesia, second half of third.	Dr. Prow.	(No. 49)	1
Miletus, c. 295 B.C.	Dr. Apollo head.	(No. 79)	1
Miletus, c. 293 B.C.	Prow.	(No. 44)	1
Byblus, c. 315-310 B.C.	Apollo head.	(No. 80)	1
Damascus (?), c. 322-317 B.C.	Apollo head.	(No. 71)	1
Babylon, c. 326-324 B.C.	Demeter head.	(No. 83)	1
Babylon, c. 317 B.C.	Apollo head.	(No. 72)	1
Uncertain mint, end of fourth.	Apollo head.	(No. 81)	1
Uncertain mint (types not recorded).	All ctmkd. but no details.		29
Illegible.	Dr. Prow.	(Nos. 56, 58)	2

# BÜYÜKÇEKMECE HOARD

31

## *Demetrius Poliorcetes* (2)

Amphipolis, c. 290–289 B.C.	Prow.	(No. 66)	1
Uncertain mint (type not recorded)	Ctmkd.		1

## *Lysimachi* (9)

Perinthus, after 281 B.C.	Prow.	(No. 59)	1
Byzantium, after 281 B.C.	Prow.	(No. 45)	1
Calchedon, after 281 B.C.	Prow.	(No. 50)	1
Calchedon, after 281 B.C.	Prow.	(No. 67)	1
Cius, after 281 B.C.	Demeter head.	(No. 84)	1
Cius, after 281 B.C.	Prow.	(No. 60)	1
Cyzicus (?), after 281 B.C.	Apollo head.	(No. 69)	1
Magnesia, c. 290 B.C.	Prow.	(No. 51)	1
Uncertain mint (type not recorded)	Ctmkd.		1

## *Attalus I* (1)

Pergamum, 241–197 B.C.	Prow.	(No. 61)	1
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## *Seleucus I* (1)

Tarsus, 294–290 B.C.	Apollo head.	(No. 73)	1
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## *Antiochus I* (1)

Seleucia, c. 263–261 B.C.	Prow.	(No. 46)	1
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## *Antiochus II* (3)

Aegae, 261–246 B.C.	Apollo head.	(No. 74)	1
Seleucia, c. 261–256 B.C.	Prow.	(No. 52)	1
Ecbatana, 261–246 B.C.	Prow.	(No. 54)	1

## *Seleucus II* (2)

Antioch, c. 240–232 B.C.	Prow.	(No. 57)	1
Antioch, c. 240–232 B.C.	Apollo head.	(No. 75)	1

## *Antiochus Hierax* (2)

Lampsacus (?), c. 241–228/7 B.C.	Prow.	(No. 62)	1
Alexandria Troas, c. 241–228/7 B.C.	Prow.	(No. 47)	1

## *Antiochus* (2)

(Neither ruler nor type recorded)	Ctmkd.		2
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MARGARET THOMPSON



## ADDENDA

After this article had gone to press, M. Seyrig showed me four additional coins from the Büyükçekmece Hoard which he had recently acquired. Three of the pieces add little or nothing to the evidence already presented but the fourth, an Attalid tetradrachm, is of considerable interest. The coins are as follows:

1. An autonomous tetradrachm of Byzantium belonging to the same issue as Nos. 7–12 of the catalogue. Gr. 12.30. ↑
2. A Lysimachus tetradrachm without monogram or symbol. This piece is from the same obverse die as a coin in the ANS, the latter labelled by Newell "Uncertain Mint." It is countermarked with a Type III head, probably identical in die with that found on No. 80. Gr. 15.05. ↑
3. A tetradrachm of Seleucus II from the mint of Susa, struck from the same obverse and reverse dies as No. 367 of *Eastern Seleucid Mints*. The prow countermark is from the same die as that impressed on No. 54, and on the new coin the monogram is clearly ∇. Gr. 14.70. ✓
4. An Attalid tetradrachm with a bunch of grapes and A on the reverse. It is countermarked with a prow r., somewhat similar to that used for No. 53 but without monogram below. Gr. 14.98. ↑

This last coin belongs to Imhoof-Blumer's Class A,V (*Die Münzen der Dynastie von Pergamon*, p. 6) and is from the same obverse die as his Plate I, No. 10. There the issue is attributed to Eumenes II but in the text Imhoof expresses some uncertainty as to whether it was struck by Eumenes or by his predecessor Attalus I.

Imhoof-Blumer's next group (Class A, VI), definitely ascribed to Eumenes II, has a type with a palm symbol and the monogram ΕΥΙ. A comparison of the illustrations for the two issues, Nos. 11 and 12 on Plate I, leaves little doubt that they are closely associated; the obverses are so similar that it would seem impossible to place them far apart in time. An example of the ΕΥΙ issue occurs in the Gordion Hoard, buried c. 210 B.C. or shortly thereafter, and Miss Cox argues persuasively, from the evidence of her hoard as a whole, for a division of the coinage usually attributed to Eumenes II and the assignment of the coins with the ΕΥΙ monogram to Eumenes I (*Gordion*, p. 11). If, however, these coins are given to the first Eumenes, one must on grounds of style consider shifting the issue with grapes and A to Eumenes I or the early years of Attalus I. This dating accords well with the condition of M. Seyrig's new coin and with the general

composition and tentative burial date of the Büyükçekmece Hoard.

There are nevertheless serious problems involved in this revised arrangement. Miss Cox points out that "the evidence does not warrant moving all of the coins now attributed to Eumenes II to the reign of Eumenes I, only those with the monogram ΕΥΙ." But is it possible to separate the ΕΥΙ coins from other issues with which they are closely associated in style? One example of such a stylistic relationship has already been cited; in addition there are the issues illustrated by Imhoof on Plate II, Nos. 14 and 15. Not only are these obverses of similar style but the reverses share the bee symbol (as does No. 16). It is difficult to believe that the two coins were struck a half century apart. Examples of the coinage which Imhoof attributes to Eumenes I and to Attalus I are illustrated by Nos. 6–9 of his Plate I. The four obverses are very closely related, as are the reverses, and the latter furthermore develop in a consistent pattern which Imhoof has most plausibly outlined. The interpolation of even the ΕΥΙ coins into this sequence is disturbing; the interpolation of the ΕΥΙ coins and their associated issues is even more disconcerting.

Miss Cox recognized this difficulty, but the composition of her hoard and its burial date persuaded her to disregard it. I think, however, that there is an alternative explanation, which can only be dealt with here in cursory fashion but which I hope to explore more fully, whereby one avoids a break in Imhoof's logical sequence and at the same time reconciles the evidence of the Gordion and Büyükçekmece Hoards. It seems to me entirely possible that Imhoof's arrangement is correct as it stands but that his attributions are wrong. Is it not feasible to consider his Nos. 6–9 on Plate I as the coinage of Eumenes I, his Nos. 10–17 on Plates I and II (and perhaps other later issues) as the coinage of Attalus I. This revision has the advantage of providing an acceptable dating for the four Attalid specimens in the two hoards. Miss Cox's No. 76 would be an issue of Eumenes I, her No. 75 a striking of Attalus I; our No. 61 would belong to Eumenes I, Seyrig's new coin to Attalus I.\* It also

\* Miss Cox indicates that the wear on her No. 75 is greater than that on No. 76, but the evidence from isolated and badly preserved specimens can be misleading. In the Büyükçekmece Hoard the new coin seems to me in considerably better condition than No. 61.

has the advantage of permitting a reasonable association of the Pergamene regnal issues and the cistophoric and Alexander coinages of that mint. In many cases these share symbols or monograms or both, and it is tempting to regard them as contemporary. If the Alexanders attributed to Pergamum are of the third century, and it seems to me almost certain that this is the case, and if the cistophoric coinage started at Pergamum *c.* 228 B.C. (S. P. Noe, "Beginnings of the Cistophoric Coinage," *A. N. S. Museum Notes*, IV, pp. 29-41), then the symbols and monograms found on the Alexanders and on the early cistophors can be connected only with the regnal issues of Attalus I, not with those of Eumenes II. The re-attributions suggested above are fundamental for an association of the three coinages.

## IMPURITIES IN EUBOEAN MONETARY SILVER\*

(SEE PLATES VIII–XI)

There has been comparatively little investigation into the metal content of ancient Greek silver coins,<sup>1</sup> chiefly because the coins themselves are valuable; owners, whether institutions or private individuals, have not usually been willing to submit their coins to any type of examination which would injure their appearance and reduce their value. Thus many interesting questions which it should be possible to settle have remained unanswered. It is obvious, for instance, that analysis of the metal would usually suffice to detect a forgery if adequate comparative material were available.<sup>2</sup> It is obvious, too, that much information of importance for economic and political history could be obtained from a comparison of the kinds of silver, and of the monetary techniques, used by different states at different times. And there are well-known numismatic problems which might

\* W. P. Wallace has been assisted in his work on Euboean coins by a grant from the American Philosophical Society.

<sup>1</sup> The only publication to contain a considerable number of analyses of Greek and Roman coins is a paper by J. Hammer entitled "Feingehalt der griechischen u. römischen Münzen," *Zeitschrift f. Numismatik*, 26 (1908). These, however, concerned only the gold and silver content of the coins, the results of different investigators were listed without description of their methods, and while the whole range of ancient numismatics was covered, there were seldom more than a very few specimens of any one series. It appears from this study that the purity of Greek monetary silver lies in general between .99 and .91 (with two exceptions in eighty-four analyses). The gold content (not always determined) was found to vary from .001 to .006. Some interesting work has been done recently on the chemical analysis of Greek monetary brass and copper by E. R. Caley, who has published "The Composition of Ancient Greek Bronze Coins," *Memoirs of the American Philosophical Society*, 11 (Philadelphia, 1939). Caley was able, on the basis of their composition, to correct the previously accepted dates of certain bronze issues.

<sup>2</sup> How clearly forgeries may sometimes be differentiated spectrographically from genuine coins may be seen by a glance at PLATE X (see Table V, Group 6). The *ancient* forgery of a Euboean League drachm (Table IV, Group 1, no. 91) is not clearly differentiated by its spectrum from the genuine coins, but the stronger gold line perhaps shows that the silver came from a different source.

be settled off-hand by accurate information about the metallic content of the coins concerned.<sup>3</sup> Spectroscopy makes possible the examination, with negligible injury, of large numbers of coins, and it is remarkable that it has been so little employed as yet by numismatists.<sup>4</sup> This paper is concerned with the spectrographic examination of some three hundred drachms struck at Chalkis and at Eretria (the mint of the Euboean League) in the fourth century B.C., and of about a hundred coins from other mints to serve — very inadequately — as comparative material. It is hoped that the results will appear interesting enough to persuade others to conduct similar investigations into the issues of other Greek mints at various periods. The value of such studies will be increased by every addition to their number.

When our investigations began we had available for study some 200 roughly contemporary drachms of Chalkis and the Euboean

<sup>3</sup> Perhaps two examples will be sufficient. Were the "Wappenmünzen" Athenian, Euboean, or perhaps Boeotian? The most recent detailed examination of this question — by Charles Seltman in *Athens, its History and Coinage before the Persian Wars* (Cambridge, 1924) — cannot be said to have settled the matter. Were the sixth century incuse coins of South Italy really to a considerable extent restruck on Corinthian "colts" as suggested by Mr. C. H. V. Sutherland in *A. N. S. Museum Notes*, III (1948)?

<sup>4</sup> Mr. Given Brewer, Consulting Engineer, of Laguna Beach, California, suggested to W. P. Wallace a number of years ago that the spectrographic examination of Greek coins should yield interesting results. In 1943 Professor Bellingier of Yale University, in a review of Caley's work (*American Journal of Archaeology*, XVII, p. 360) suggested that "chemical analysis should be supplemented by spectroscopic." Mr. C. H. V. Sutherland foresees the use of the X-ray spectroscope to determine the mining area of coin silver (*A. N. S. Museum Notes*, IV (1950), p. 2). As far as we know, no spectrographic analyses of Greek coins have been published. For Roman coins a beginning has been made by Mr. Michael Grant who, in *From Imperium to Auctoritas* (Cambridge, 1946), has published the results of the spectrographic analysis of some Roman Imperial "bronze" coins. These analyses were carried out for him by the British Non-Ferrous Metal Research Association with an apparatus and by a method very similar to that employed by us. The results are presented in a table giving the comparative amounts of zinc, tin, and lead, in 69 different and miscellaneous coins; the amounts involved range, in the case of all three metals investigated, from about 20% to mere traces or none at all. For his more recent study, *Aspects of the Principate of Tiberius* (NNM 116, New York, 1950), he again had spectrographic analyses made — see his Appendix 3; these were apparently few in number, and the author bases no firm conclusions upon the results. But it seems clear that the composition of Roman "bronze" was controlled much less carefully than that of Greek silver.

League.<sup>5</sup> Another 100 were secured before the work was completed and a set of spectrograms was accordingly made for the new coins: 27 coins of the lot which had been done first (at least one from each of the symbol groups) were included with the new coins to make comparison possible.<sup>6</sup> On each occasion a certain number of coins from other mints and of different dates was included; with the second lot were an American and a Canadian dime, known to contain 10% and 20% of copper respectively. The coins tested were:

113 drachms of the Euboean League, mostly of the 4th century B.C.

7 coins of the Euboean League of other denominations

178 drachms of Chalkis, mostly of the later 4th century B.C.

19 Athenian coins (15 of them tetradrachms) of the 5th and 4th centuries B.C.

<sup>5</sup> The Euboean League drachms of lighter weight (Groups 2 to 8 in Table IV) are dated by Head about 378–338 B.C., and the Chalkis drachms (Groups 1 to 11 in Table V) are put slightly later, from 369 to 336 B.C. (*Historia Numorum*<sup>2</sup>, Oxford, 1911, pp. 362 and 358), while Babelon dates both series from 369 to 313 B.C.. There are, however, various indications that both series actually ran down into the third century. Mme. Varoucha-Christodouloupoulos has recently, in her preliminary publication of the 1937 Eretria hoard (*Epitymbion Christou Tsounta*, Athens, 1941, pp. 671–672), put the latest of the Euboean League drachms, those with the dolphin symbol, in the period when Demetrios Poliorketes was connected with Euboea — the early years of the third century — and as the burial date of this hoard was 220–210 B.C. (*l. c.*, pp. 671–2), and the dolphin drachms were “very well preserved,” it would seem possible that they may belong even later. There are other unpublished hoards which point to the same conclusion. As to the drachms of Chalkis, Newell wrote in 1929, in publishing the Olympia Alexander hoard, that “the accepted dating of these pieces in the last half of the fourth century is probably correct” (*NNM* 39, New York, 1929, p. 17), but if the latest Euboean League drachms are brought down into the third century, it is perhaps probable that the latest Chalkis drachms should accompany them. The order adopted in the tables for the various series differentiated by symbols is intended to be chronological and is based on the evidence of comparative wear in a number of small unpublished hoards. It may be taken as reasonably certain that the order is correct for the Euboean League issues. For Chalkis it is at least clear that the flower and race-torch groups are early and that the caduceus group is definitely late. The detailed chronology of both series is in need of further study; that of the Euboean League issues is dealt with in a forthcoming study, *The Euboean League and its Coinage*, by W. P. Wallace.

<sup>6</sup> In the case of the Athenian coins which came from the Royal Ontario Museum of Archeology no such check was made as the coins had been returned to the museum.

- 44 Athenian "New Style" tetradrachms of the 2nd century B.C.
- 13 Karystos didrachms of the later 4th century B.C.
- 22 miscellaneous Greek coins, listed in Table VIII
- 2 modern 10¢ pieces (U. S. A. 1943, and Canada 1948)
- 60 miscellaneous Greek coins, tested early in our work and not listed in the tables.

Finally, after our work had been completed, chemical analyses of a dozen of the coins were made for us by Professor McBryde of the Department of Chemistry, University of Toronto; the results are compared with our spectrographic results in a note at the end of this paper. The Euboean and most of the miscellaneous coins come from the collection of W. P. Wallace and are listed by his accession numbers; 60 of the Athenian coins are in the Royal Ontario Museum of Archaeology, and the authors wish to express their gratitude to Mr. Gerard Brett, Director of the Museum, and to Professor Walter Graham, Keeper of the Classical Collection, for permission to spark them. Three of the miscellaneous coins belong to Mr. F. H. Armstrong of Toronto.

The spectroscope is an instrument which breaks up a beam of light into a spectrum. The light from the source is made to illuminate a narrow slit, and an image of this slit is produced by each wave length or colour present in the radiation. Different sources of illumination give spectra of different types — thus sunlight produces a continuous band of different colours (as in the rainbow), electric sparks and arcs produce lines (slit images) of various intensities more or less irregularly spaced (see the photographs on PLATES X and XI), and incandescent gases may give so-called band spectra in which closely spaced lines overlap forming a band. We are concerned here with the second type. When an electric spark is produced between rods of a pure metal the arrangement and intensity of the lines in the spectrum are characteristic of that metal, and when the spectrum of a spark between an electrode of pure silver and a silver coin is examined any lines which are not due to silver are due to impurities in the metal of the coin at the point to which the spark was directed. These lines can be identified and their intensity used to determine the amount of the impurity involved. Identification and examination of the lines are easier on a

photographic plate, and for this reason a camera is usually fitted to the spectroscope which is then called a spectrograph. PLATE X shows photographs of coin spectra taken during our investigation, and PLATE XI indicates some of the lines which were employed in identifying the impurities.

The spectrographic method has the great advantage that it involves doing very little damage to the coins. We tested nearly 500 coins, from hemiobols to tetradrachms, and the only damage found in any case was a slight roughening of the edge for a total distance of 3 to 5 mm. at the point of contact, and the production of a small semicircle of this diameter lighter in colour than the rest of the coin on the obverse and/or reverse face. This semicircle usually disappeared completely in the course of a month or two, and in the great majority of the coins it is impossible to tell to what point on the circumference the spark was directed. The cleaner the coin the less likely it is that traces of the semicircle will remain visible; with heavily patinated coins the discoloration may be lasting.<sup>7</sup> The slight roughness on the edge sometimes remains detectable, but in the majority of cases it disappears in the course of a few months, especially if the coin is handled. In no case in the present investigation do we feel that the aesthetic or monetary value of the coin has been reduced.

Because it was desirable to deface the coin as little as possible, a spark rather than an arc source was used. The coin provided one terminal of a spark gap which was connected in parallel with a 0.005  $\mu$ f condenser across the secondary of a  $\frac{1}{4}$  KW, 15,000 volt transformer. The second terminal was a rod of assay silver  $\frac{1}{16}$  inch in diameter turned down to  $\frac{1}{32}$  inch for a distance of  $\frac{1}{4}$  inch from the end. The gap between this latter electrode and the edge of the coin was set as closely as possible at 2.5 mm. The exposure time required with this circuit was only ten seconds. The spectra were produced by a Hilger Littrow quartz spectrograph and were recorded for the most part on Eastman Spectrum Analysis No. 1 plates, in the wave length region of 3400–2500 A.U. In the early part of the investigation a slightly different circuit and Ilford Lantern plates were used.

<sup>7</sup> No. 210, although not patinated, showed the effect of the spark unusually clearly, as may be seen in PLATE IX; the semi-circle has, however, almost disappeared in the two years since the photograph was taken.



Initially the spectra of a dozen miscellaneous coins were examined to see whether any obvious differences existed amongst them. The same impurities were found to be present in every case, the only marked variation from one spectrum to another being in the intensity of the copper resonance lines 3247 and 3273 A.U. and of the gold resonance line 2676 A.U. It was decided therefore to design the experiments to permit a quantitative comparison of the amounts of copper and gold as well as to give an indication of what other impurities were present. Gold is separated from silver only with great difficulty, and it is not believed that any method of carrying out this separation was known to the ancient Greeks. Any consistent differences in gold content between different groups of coins might thus be taken to indicate that the silver was obtained from different sources. Differences in copper content might be due to differences in the raw silver, to differences in the purification technique, or to the deliberate addition of copper to the silver.

The nature of the problem sets limits to the accuracy which can be attained in a quantitative comparison. The coins are irregular in shape and thickness providing electrodes of different shapes and thicknesses with consequent variations in the excitation in the source. The presence of different impurities or of very different amounts of the same impurity may also affect the excitation in the source. Consequently only rather large variations in apparent content were regarded as significant.

Another factor which cannot be overlooked is the possibility of variation in composition in a given coin. A single exposure gives an indication of the composition of a very small volume at one point at the surface of the edge of the coin. In a considerable number of cases more than one exposure was made with the same coin — in some cases duplicate exposures were made of sparks to the same point, in other cases exposures were made of sparks to different points. These checks were sometimes photographed on the same plate, and sometimes on different plates. They therefore served to check on the reproducibility of results as well as on variations in content in the same coin. In some cases a broken edge on a coin made it possible to obtain a spectrum representative of the metal of the interior. If the method were used to determine the affinity of an individual coin several spectra obtained

from different points on the coin should be employed rather than a single spectrum from one point only.

As a measure of the amount of copper present, the ratio of the intensity of copper radiation of wave length 3247 A.U. to the intensity of silver radiation of wave length 2934 A.U. was taken. These two lines were chosen because they were of comparable intensity, of similar contour, and not too different in wave length. The only copper lines visible in most of the spectra were the resonance lines. The silver resonance lines were, of course, much too intense to use for comparison. Various silver lines were tested with each of the copper lines to see whether their intensity ratio varied with such variations in excitation as were unavoidable in this work. The choice made was only one of several which seemed almost equally good. All plates were calibrated using a rotating stepped sector and copper arc source.

The percentage of copper by weight was derived from the intensity ratio by the use of five copper-silver alloys of known composition.<sup>8</sup> A graph plotted between the logarithm of the intensity ratio and the logarithm of the ratio of the number of copper atoms in a given volume to the number of silver atoms in the same volume was found to be a good straight line up to proportions corresponding to 10 per cent of copper. The logarithm of the ratio of the number of copper to the number of silver atoms corresponding to the intensity ratio found for a coin was read from this graph and converted to the percentage of copper by weight. It has been mentioned that in some of the earlier work the spectra were excited by a circuit which was not the same as that used in later work. Values of the intensity ratio for a considerable number of coins were obtained by both methods and a second graph was plotted between the logarithm of the intensity ratio given by first method and the logarithm of the number ratio deduced by means of the intensity ratio given by the second method. In the case of coins studied only by the first method, percentages of copper corresponding to the intensity ratios given by the first method were read from this last graph, since no standard alloys were available when the first results were obtained, and so no direct determination of percentage was possible.

<sup>8</sup> These samples were prepared for us by Professor W. A. M. Hewer of the Department of Mining Engineering, University of Toronto.

The quantity of gold in different coins was compared in a similar manner using the ratio of the intensity of the gold line of wave length 2676 A.U. (the only gold line visible) to the intensity of the silver line of wave length 2681 A.U. The choice of a comparison line was based on the same considerations as before. In this case the intensity ratios were not converted into gold percentages, and variations in the intensity ratio only were studied.

The results of the copper determinations are summarized in Tables I, II, and III. Table I gives an indication of the reproducibility of results; Table II gives the average copper content (as well as a rough indication of the intensity of the lines showing the presence of other impurities); and Table III gives the distribution of the values of the copper content, for the coins of each group. While a large number of coins were examined at more than one point, many others were examined at one point only, and this will account to some extent for the spread in values obtained for similar coins. Variations in the composition of the mass of silver from which the coins were made would also contribute to this spread.

In the case of the modern Canadian coin the surface is covered with a layer having a lower copper content than the interior of the coin, and it was necessary to cut the coin and spark to a point in the interior before values consistent with those given by the other standards were obtained. We assume that Greek coins were not so treated, an assumption borne out by the two or three cases in which a break made it possible to spark below the original surface. It will also be observed that the Canadian 10 cent piece gave a slightly lower value of the intensity ratio than did the American. At such high concentrations of copper it is to be expected that the relation between intensity ratio and copper percentage will differ from that found at lower concentrations. As we used no standards containing more than 10 per cent of copper except the Canadian 10 cent piece, readings indicating more than 10 per cent of copper in a coin are to be treated as only roughly approximate.

In the following table are listed the readings resulting from eleven different "sparkings" of each of the standard alloys (see note 8), and from a half a dozen different "sparkings" of each of five of the coins. The reader, by examining these figures, may see the amount of

variation to be expected between one reading and another; the variation is somewhat greater with the coins than with the standards, probably because the alloy of the coins is less homogenous. In column 1 the highest reading ( $\bar{1}.87$ ) is higher than the lowest reading ( $\bar{1}.84$ ) in column 2; thus the method does not *always* distinguish between .3 per cent and .6 per cent of copper, but does always distinguish between .3 per cent and 1.3 per cent.  $\bar{1}.70$  is, of course, another way of writing  $-1 + .70$ .

TABLE I  
*Reproducibility of Results*

Values of  $\log \frac{I_{3247}}{I_{2934}}$  obtained for the standards

0.3% Cu	0.6% Cu	1.3% Cu	2.46% Cu	4.6% Cu	10.0% Cu	20.0% Cu
$\bar{1}.70$	$\bar{1}.84$	$\bar{1}.95$	0.21	0.38	0.56	0.55
$\bar{1}.80$	$\bar{1}.89$	0.03	0.03	0.22	0.53	0.52
$\bar{1}.62$	$\bar{1}.85$	$\bar{1}.95$	0.09	0.22	0.54	0.49
$\bar{1}.70$	$\bar{1}.87$	0.04	0.16	0.27	0.57	0.47
$\bar{1}.84$	0.03	0.00	0.25	0.30	0.50	0.46
$\bar{1}.86$	$\bar{1}.89$	0.10	0.23	0.28	0.48	0.45
$\bar{1}.64$	$\bar{1}.88$	0.09	0.02	0.29	0.52	0.59
$\bar{1}.82$	$\bar{1}.93$	0.10	0.17	0.27	0.59	0.50
$\bar{1}.77$	$\bar{1}.88$	0.08	0.16	0.29	0.54	0.54
$\bar{1}.80$	$\bar{1}.93$	0.05	0.18	0.26	0.57	0.48
$\bar{1}.87$	$\bar{1}.86$	0.04	0.16	0.33	0.47	0.51

Values of  $\log \frac{I_{3247}}{I_{2934}}$  and corresponding % Cu for a number of coins

EL 21 (no symbol)		EL 95 (no symbol)		CH 12 (monogram)		CH 124 (monogram)		CH 112 (trophy)	
1.95	0.83	1.87	0.55	0.21	3.0	0.61	19.7	0.46	10.1
1.68	0.20	1.89	0.60	0.28	4.3	0.33	5.4	0.37	6.7
1.62	0.15	1.90	0.64	0.28	4.3	0.26	3.8	0.39	7.2
1.71	0.24	1.49	0.08	0.31	4.9	0.48	11.0	0.53	14.0
1.48	0.08	1.70	0.22	0.25	3.7	0.30	4.7	0.46*	5.2
1.68	0.20	1.73	0.27	0.35	5.9	0.33	5.4		
1.73*	0.18			0.51*	6.8	0.50*	6.6		
1.80*	0.25								

\* Denotes values obtained by the early method. Values quoted are from spectra produced by sparking to different points on the specimen and recorded on different plates.

TABLE II

*Summary of Results*

The average percentage of copper by weight in the various groups, together with a rough indication of the average strength of the lines showing the presence of other impurities (w = weak, m = medium, and s = strong: see page 47).

*Euboean League*

Group	No. of coins	% of Cu	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
1. Early didrs.	4	.35	—	—/w	m/s	—	—	w	w/—
tetr. & early drs.	6	6.5	w	w	w	—	—/w	m/w	w
2. High relief	4	3.25	w	—	—/w	—	—	—/w	—/w
3. No symbol	16	.42	w	w/—	w/—	—/w	w	m/w	w
4. Grapes	5	.62	m	—	w/—	—	—	m	—
5. Kantharos	29	.9	w/m	—	w	—	—	m	w
6. Lyre	23	1.5	m	—/w	—/w	—/w	—	w/m	—/w
7. Satyr's head	23	.39	m	—	—	—/w	—	m	w
8. Dolphin	7	1.8	w	—	w/—	—	—	m/s	w

Except for the early drachms and the small series in high relief, there is always less than 2% of copper in the Euboean League issues and usually

less than 1%. The didrachms show a considerable amount of lead (but this depends on only 4 specimens); in general there seems to be a slight increase in the amount of silicon. Otherwise none of the impurities except copper is present in any considerable quantity, or shows any definite change from the earlier to the later issues.

*Chalkis*

Group	No. of coins	% of Cu	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminium
1. flower	17	9.1	m	w/-	m	-/s	-/w	m	w
2. race-torch	7	8.0	m	w/-	w	-	-	m	-/w
3. kantharos	15	8.2	w	w	w	-	-/w	m/s	-/w
4. monogram	50	7.3	w/m	-/w	w/-	-	-/w	m/s	w
5. "C" wreath	17	4.2	w	-	w/-	-	-/w	m	-/w
6. trophy	20	7.3	w	-/w	w	-	-/w	m	-/w
7. trident l.	5	6.8	m/w	w/-	-	-	-	w/m	-
8. trident r.	4	3.7	m/w	-	-	-	-	w	-
9. "Ω" wreath	5	5.5 (irreg.)	m/w	-	w/-	-/w	-/m	s/m	-
10. caduceus	21	4.7 (irreg.)	m	-/w	-/w	-/w	-/m	s/m	w
11. star	4	.8	m/s	-/m	-	-	-	m	-/w

If these groups are in correct chronological order,<sup>5</sup> it appears that the copper content of the Chalkis drachms diminishes from roughly 10% to about 5% (except for the last issue which has less than 1% if the 4 coins available are indicative). The gold is perhaps strongest at the beginning and end of the series, it seems possible that the lead diminishes slightly, and there is little change in the others.

Karystos didrs.	13	.85	m	-	-	-	-	w/m	-
Athenian									
5th-4th century	19	.19	-	-	w/-	-	-	m	-
Athenian									
2nd century	44	.10	-/m	-	w/m	-	-	s	m
Miscellaneous	22	? <sup>9</sup>	-/m	-	-	-	-	w/m/s	-

<sup>9</sup> Ten show 2-10%, twelve show under 1%.

TABLE III  
*Distribution of Copper Values in the Different Groups*

Group	Number in Group having % Cu between												Total
	0&1	1&2	2&3	3&4	4&5	5&6	6&7	7&8	8&9	9&10	10-15	>15	
<i>Euboean League</i>													
1. Early didrs.	4	—	—	—	—	—	—	—	—	—	—	—	4
tetr. & early drs.	1	—	—	1	—	1	1	—	1	—	1	—	6
2. High relief	1	—	1	—	1	1	—	—	—	—	—	—	4
3. No symbol	14	2	—	—	—	—	—	—	—	—	—	—	16
4. Grapes	4	—	1	—	—	—	—	—	—	—	—	—	5
5. Kantharos	17	11	1	—	—	—	—	—	—	—	—	—	29
6. Lyre	16	3	2	1	1	—	—	—	—	—	—	—	23
7. Satyr's head	19	4	—	—	—	—	—	—	—	—	—	—	23
8. Dolphin	2	2	2	1	—	—	—	—	—	—	—	—	7
	78	22	7	3	2	2	1	—	1	—	1	—	117
<i>Chalkis</i>													
1. Flower	—	—	—	—	2	3	3	1	2	—	2	4	17
2. Race-torch	—	—	—	1	—	1	—	—	3	—	2	—	7
3. Kantharos	—	—	—	—	3	3	3	2	1	1	—	2	15
4. Monogram	—	—	2	3	5	8	5	9	6	5	7	—	50
5. "C" wreath	2	1	2	5	3	3	—	1	—	—	—	—	17
6. Trophy	—	—	1	1	4	1	2	3	3	—	3	1	19 + 1 <sup>10</sup>
7. Trident l.	—	1	—	1	—	—	2	—	—	—	—	1	5
8. Trident r.	—	1	1	—	1	1	—	—	—	—	—	—	4
9. "Ω" wreath	—	1	—	1	1	—	—	—	—	—	1	1	5
10. Caduceus	—	—	1	6	4	6	—	—	1	1	—	2	21
11. Star	3	1	—	—	—	—	—	—	—	—	—	—	4
	5	5	7	18	23	26	15	16	16	7	15	11	165
Karystos didrs.	11	1	—	1	—	—	—	—	—	—	—	—	13
Athens 5th-4th cent.	18	1	—	—	—	—	—	—	—	—	—	—	19
2nd cent.	43	1	—	—	—	—	—	—	—	—	—	—	44
Miscellaneous	12	—	2	2	1	3	—	1	—	1	—	—	22

<sup>10</sup> The forgery (see Table V, Group 6, no. 24) is not included here.

In the case of gold, quantitative measurements were made on about 230 coins but were then discontinued, since it was felt that their usefulness was limited. The gold line was in most cases very much weaker than the copper lines so that for a satisfactory measurement

of the gold content a second exposure of longer duration should be made. This was not done, and measurements were attempted on the plates used for the copper determinations. Variations in the intensity of the gold line were certainly established, but differences between coins of the same group appeared to be of the same order as differences between coins of different groups. It was felt that these preliminary results justified neither further measurements of the same sort nor the work involved in the photography of the spectra with longer exposures and the more exact determination of the intensities. It may be that this conclusion was incorrect and that further exact determinations would lead to valuable results.

In addition to the quantitative measurements on copper and gold, a careful examination was made of all the spectra to ascertain which lines due to other elements were present. Only lines due to zinc, tin, lead, iron, magnesium, aluminium, calcium, and silicon were detected, although a careful search was made also for lines indicating the presence of cobalt, tellurium, bismuth, antimony, nickel, arsenic, etc. It is possible that if an arc source could have been used other trace impurities might have been found, but this would have meant defacement of the coins. An attempt was made to give a rough estimate of the comparative amounts of these trace elements. Six lines were used to indicate the amount of tin (of wave lengths 3175, 2840, 3034, 2863, 3262, and 3009 A.U. in order of intensity): *s* indicates that all six were present, *m* that four or five of them were visible, *w* that only two or three, and – that none or only the most intense could be distinguished. For lead, silicon, aluminium, iron, and zinc only one line was used in each case, the wave lengths being 2833, 2881, 3093, 3020, and 3345 A.U. respectively; *s* indicates that the line was strong, *m* that it was of medium strength, *w* that it was weak, and – that it was either extremely weak or not visible. Variations in the intensity of the calcium line, which appeared in almost all spectra, were not listed as they seemed unlikely to be significant. For those gold lines

which were measured quantitatively values of  $\frac{I_{2676}}{I_{2681}}$  greater than or equal to 1.3 have been designated *s*, those between 1.3 and 0.5 as *m*, those less than 0.5 as *w*, while – indicates that the gold line was not



visible. For other coins the intensity of the gold line 2676 A.U. was estimated visually and assigned to one of these categories. Too much significance must not be attached to this classification, and in particular it must be remembered that *w*, for instance, does not indicate the same quantity in different columns: the amounts were not determined. Usually the same impurities showed in all spectra taken with the same coin, but there were one or two instances in which an impurity showed in one spectrum but not in another from the same coin. The possibility that some or all of these trace impurities might be due to the second electrode was considered. The assay silver used was at least 99.99 per cent pure, but long exposures to an arc between two such electrodes gave spectra in which the iron, lead, aluminium, and magnesium lines were present with low intensity. In spite of this it is not believed that with the exception of magnesium the presence of the lines in the spectra of the coins is due to the silver electrode. None of the lines due to impurities other than magnesium appeared in the spectra of the standard alloys taken with the same second electrode. The lines due to magnesium did appear in these spectra, though with reduced intensity, and this, coupled with the fact that the magnesium lines showed relatively little variation from one coin to another, has led to the omission of this substance from the tables.

When one asks what general conclusions emerge from the investigation, a distinction must be made between the facts and their interpretation. Thus it may be taken as demonstrated that the Chalkis drachms contain much more copper than those of the Euboean League. The explanation is less clear. The amount is perhaps hardly great enough to be due to intentional adulteration; it seems more likely that at Chalkis the purification of monetary silver was carried out either less carefully or by a less effective method than at Eretria. The Chalkis drachms seem also to contain slightly more gold and slightly more silicon than those of the Euboean League. Whether, however, the difference in the amount of gold is sufficient to suggest a different source for the bullion is a question that could not be decided without further special investigation of the gold content. The non-Euboean coins show hardly any traces of iron, tin, or zinc; too few coins were tested, however, for this fact to be considered significant, except, perhaps, in the case of the "New Style" Athenian issues. The

apparently greater gold and aluminium content of these second century Athenian coins as opposed to the earlier Athenian issues is interesting and should be the subject of further investigation.<sup>11</sup> The chief difficulty in the way of any attempt at interpretation is the lack of comparative material; when studies with a larger chronological scope are available in similar detail for all of the important Greek mints, results of some real importance may be expected.

The following general principles seemed to emerge from our work and may be of use to future investigators:

1. The coins examined should be broken into their smallest series. Thus the average copper readings for a group of fourth century Euboean drachms would be of little interest if those struck at Chalkis were not distinguished from those struck at Eretria; even for a group of Chalkis drachms the average copper content could be quite misleading if the group happened to be made up largely of drachms with the trident right and star symbols.

2. The characteristic metal content of a coin series should be determined by averaging the readings for as many coins as possible, since individual variations may be considerable.

3. The range of normal variation in a series is as important as the average figure if a single coin is being related to it — a coin suspected, for instance, of being an “overstrike” or a forgery.

4. The spectrographic method can be most usefully employed in determining the amounts of the impurities in coins where the amounts involved are comparatively small — under 10 per cent in the case of copper (there was little difference in the readings for the American and Canadian dimes which had copper contents of 10 per cent and 20 per cent respectively). The method is thus more appropriate for the investigation of silver than of “bronze” coins.

#### *Note on X-ray Methods*

The suggestion has been made that X-rays might be used for the analysis of Greek silver coins. Three methods suggest themselves: (1) the use of the coin as the target in an X-ray tube and the analysis of the X-rays emitted from the tube; (2) the analysis of the spectrum

<sup>11</sup> See note 6.

of the secondary X-rays produced when a primary X-ray beam falls on the coin; (3) the determination of the position of the intensity maxima of the diffracted radiation when X-rays are reflected from the surface of the coin. Having the results of the present investigation in mind, there is almost no hope of detecting any of the impurities except possibly copper by any of these methods except the first. This method would be almost certain to result in some defacement of the coin, and would require an X-ray tube of special design such that a coin of any size, shape, or thickness could be mounted as the target. Neither of the last two methods would mark the coin in any way. The second might, by the use of primary X-rays of suitable wave length, be made applicable to the determination of copper or any impurity present in proportions as great as a few per cent. The third method has been tested using the standard alloy containing 4.6 per cent of copper and a Philips' Geiger Counter X-ray Spectrometer and found too insensitive for the detection even of the copper. This is due in part to the fact that copper atoms scatter X-rays much less strongly than do silver atoms, and a mixture of copper and silver containing a small percentage of copper is accordingly not very suitable for investigation by this method. In the opinion of the authors, therefore, X-ray methods do not promise to yield as much information concerning the composition of Greek silver coins as the method used in the present investigation.

*Note on the Chemical Analysis of a Few Specimens*

Since the above paper was written, chemical analyses of twelve of the coins for copper and gold have been made by Professor W.A.E. McBryde of the Department of Chemistry, University of Toronto. Among the coins so analyzed were four for which the value given by the single spectrographic determination which had been made was much higher than those for other coins of the same group and was therefore thought not to be characteristic of the coin as a whole. Four other coins of Chalkis and four of the Euboean League completed the group. Redeterminations of the copper content of these coins by the spectrographic method were also made. In the table below, column 2 gives the value previously reported, column 3 gives the new value obtained when the coin was sparked to the edge cut to obtain the sample for

chemical analysis, and column 4 the new value when the coin was sparked to its uncut edge. The fairly close correspondence between the values given in columns 3 and 4 shows that with these small coins "segregation" is not a cause of serious error. In all cases the number in brackets after the value indicates the number of independent observations for which it is the average. In column 5 the overall averages of the spectrographic values are given. In calculating these averages the values of columns 2, 3, and 4 were weighted according to the number of observations which they represent, except that values in excess of 10 per cent were neglected. Column 6 gives the percentage of copper, and column 7 the percentage of gold determined chemically.

Bearing in mind that the accuracy of the spectrographic values is limited by the necessity of using the coin without cutting it or otherwise changing its shape, and of damaging it as little as possible, the agreement of the spectrographic with the chemical values is regarded as satisfactory. The chemical determinations of the gold give actual percentages which were not previously available and confirm that the amount of gold in the coins of the Euboean League and of Chalkis is approximately the same.

*Table Correlating the Spectrographic and Chemical Values*

1 Coin	2 % Copper as quoted	3 % Copper repeat to cut edge	4 % Copper repeat to uncut edge	5 % Copper Average Spectro.	6 % Copper Chem.	7 % Gold Chem.
EL 98 (Group 3)	0.11 (4)	0.17 (2)	0.44 (1)	0.17	0.18	0.24
EL 108 (Group 5)	0.14 (2)	0.48 (2)	0.77 (1)	0.40	0.66	0.18
EL 103 (Group 7)	0.10 (1)	0.20 (2)	0.38 (1)	0.22	0.17	0.11
EL 111 (Group 8)	0.49 (2)	0.44 (2)	0.45 (1)	0.46	0.47	0.04
Ch 65 (Group 3)	5.9 (1)	1.9 (2)	2.0 (1)	2.9	3.62	0.74
Ch 224 (Group 4)	5.9 (1)	2.9 (2)	—	3.9	5.19	<1%
Ch 141 (Group 6)	3.4 (1)	1.9 (2)	1.8 (1)	2.3	3.01	0.22
Ch 43 (Group 10)	4.2 (1)	2.9 (2)	—	3.3	3.52	—
Ch 168 (Group 1)	11 (1)	3.5 (2)	3.6 (1)	3.5	4.41	<1%
Ch 125 (Group 4)	13 (1)	5.0 (2)	>10 (1)	5.0	4.73	—
Ch 97 (Group 6)	23 (1)	5.5 (1)	>10 (1)	5.5	3.0	<1%
Ch 98 (Group 6)	15 (1)	>10 (2)	>10 (1)	—	4.15	<1%

TABLE IV  
*Silver Issues of the Euboean League*

Group 1<sup>12</sup>  
 Earliest issues

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
Didrachms: 1*	.4	—	—	m	—	—	—	—
(Aeginetic 2	.1	—	s	s	—	—	m	w
weight) 89	.1	—	—	s	—	—	—	—
93	.8	w	—	m	—	—	m	w
Average:	.35	—	—/w	m/s	—	—	w	w/—
Tetradrachm: 4*	8.0	w	—	—	—	—	m	w
(EYB)								
Drachms: 32	.5	w	—	—	—	m	s	w
(Attic 55*	5.7	—	m	w	—	—	m	w
weight) 56	14	w	—	w	—	—	—	—
71*	3.8	w	s	m	s	m	w	w
Forgery: 91*	14	s	—	s	—	—	s	m
112	6.5	m	—	m	—	—	w	w
Average:	6.5	w	w	w	—	—/w	m/w	w

<sup>12</sup> This group is too small and too miscellaneous (both the didrachms and the drachms might be subdivided) for the results to be very significant. The coins in it probably all fall between 410 and 394 B.C., the didrachms being struck, probably, in 410 and 405 B.C., and the other coins of the group probably only a few years later. No. 91 seems to be an ancient forgery: the fact that the gold line is stronger in its spectrum than in those of the other coins of the group perhaps indicates that the silver comes from a different source. This coin, now in the possession of Professor D. M. Robinson, is published as no. 45 in his *Hoard of Silver Coins from Carystus*, (NNM 124, New York, 1952).

\* Illustrated on PLATE VIII

Group 2<sup>13</sup>

Head l. or r. High relief. No symbol

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminium
Drachms: 16	4.4	w	—	—	—	—	—	—
54*	5.0	m	—	—	—	—	—	—
81	2.6	—	—	—	—	—	—	—
97	.9	w	—	m	—	—	s	s
Average:	3.25	w	—	—/w	—	—	—/w	—/w

## Group 3

Head l. No symbol

(Bracketed coins are struck from the same pair of dies)

Drachms:	10	.1	—	—	—	—	—	w	—
	{ 17	.2	w	—	—	—	—	w	—
	{ 21	.2	w	s	w	—	w	m	m
	{ 95	.4	w	—	w	s	w	w	w
	{ 24	.2	w	—	—	—	—	s	m
	{ 58	1.0	m	w	—	—	s	m	w
	{ 98	.1	m	—	s	w	—	s	s
	{ 27	1.2	m	—	—	—	—	w	—
	{ 31	1.2	m	—	—	—	w	w	w
	{ 61	.4	w	—	—	—	m	m	—
	{ 62	.4	w	w	w	—	s	w	—
	{ 113	.3	w	w	w	—	m	s	s
	59	.2	w	m	—	—	—	w	—
	39	.1	w	—	—	—	—	m	w
	60*	.4	w	m	—	—	m	m	m
	114	.6	w	—	m	w	w	w	s
Average:		.42	w	w/—	w/—	—/w	w	m/w	w

<sup>13</sup> The coins of this group are in high relief, and while of the lighter weight seem early in style. Although no generalization should be based on four coins, the high copper content of those tested perhaps supports the early dating. No. 7 on p. 95 (plate xvii, 5) of *BMC Central Greece* (London, 1884) is a particularly fine specimen belonging to this group.

\* Illustrated on PLATE VIII.

TABLE IV

(Bracketed coins are struck from the same pair of dies)

## Group 4

## Head 1. Symbol – grapes

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
Drachms: { 5*	.3	m	—	w	—	w	w	—
{ 35	2.2	m	—	—	—	—	s	—
{ 68	.2	w	—	—	—	—	—	—
{ 82	.2	w	—	—	—	—	m	—
{ 99	.2	s	—	s	w	—	s	s
Average:	.62	m	—	w/—	—	—	m	—

## Group 5

## Head 1. Symbol – kantharos

Drachms: { 22	.1	w	—	w	—	—	w	w
{ 26	1.5	w	—	w	—	—	m	w
{ 38	.6	w	—	w	—	—	w	w
{ 45	.5	w	—	w	—	w	m	w
{ 46	.5	—	—	w	—	—	m	w
{ 110	.2	m	—	w	w	—	s	w
{ 118	2.0	m	—	w	—	—	w	w
{ 12	.2	w	—	w	—	w	m	w
{ 108	.1	s	—	w	—	—	s	w
{ 20	.8	m	m	w	—	—	m	w
{ 96	2.6	w	—	w	—	—	w	s
{ 117	.6	m	—	m	w	—	m	w
{ 57	.1	w	—	—	—	—	m	w
{ 109	1.1	s	—	s	m	—	s	m
{ 121	.8	w	—	w	—	—	m	w
{ 48	1.9	m	—	w	—	w	s	—
{ 63	1.2	m	—	w	—	—	w	w
{ 36	.5	m	w	m	—	m	s	m
{ 47	1.3	m	—	—	—	—	m	w
{ 73	.4	w	—	—	—	—	m	—
{ 67	1.3	m	—	w	—	—	w	—
{ 78	.8	w	—	—	—	—	m	—
{ 50	.4	w	—	—	—	—	m	w
{ 88	1.7	m	—	w	—	—	w	w

\* Illustrated on PLATE VIII.

TABLE IV

(continued)

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
65	1.2	m	—	w	—	—	w	—
{ 7	1.2	w	—	w	—	—	w	—
{ 49*	.6	w	—	—	—	—	m	w
{ 64	.5	m	—	w	—	—	w	—
66	1.5	m	—	w	m	—	m	—
Average:	.9	w/m	—	w	—	—	m	w

(Bracketed coins are struck from the same pair of dies)

## Group 6

Head r. Symbol — lyre

Drachms:	115	5.2	s	—	w	—	—	w	w
{	41	.4	—	—	—	—	—	w	—
{	42	.6	—	—	—	—	—	m	—
{	69	.7	m	—	—	—	m	m	—
{	8	5.0	m	s	—	—	w	—	—
{	40	.3	m	—	—	—	—	—	—
{	76	.1	w	—	—	—	—	w	—
{	79	1.5	w	—	—	—	—	m	—
{	90	1.3	m	w	w	—	—	m	w
	70	.4	w	—	—	—	—	m	—
	116	.5	m	—	w	w	w	m	m
	87*	1.8	m	s	w	—	—	m	m
	18	.5	m	—	w	—	—	—	—
	104	.5	s	w	w	w	—	m	w
{	43	.2	w	—	—	—	—	—	—
{	44	.3	w	—	—	—	—	s	—
{	75	.5	w	—	—	s	—	m	—
{	80	.4	w	—	—	—	—	w	—
{	105	2.2	s	w	s	s	—	m	w
{	107	.5	m	—	m	w	—	s	s
	106	.4	m	—	w	s	w	m	s
	11	3.7	m	w	w	w	—	s	w
	15	2.4	s	—	w	—	—	—	—
Average:		1.5	m	—/w	—/w	—/w	—	w/m	—/w

\* Illustrated on PLATE VIII.



TABLE IV

(Bracketed coins are struck from the same pair of dies)

Group 7

Head 1. Symbol – satyr's head

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
Drachms: { 6	.1	m	—	—	—	—	w	—
51	.1	m	—	—	—	—	m	—
84	.1	m	—	—	—	—	w	w
122	.1	m	—	—	—	—	m	m
{ 37	.1	w	—	—	—	—	m	—
85	.3	m	—	—	—	—	w	m
94	.1	w	—	—	—	—	m	w
52	.1	w	—	—	—	—	m	—
53	.2	m	—	—	—	—	s	w
{ 13	.1	m	—	—	—	—	w	—
14	.1	w	—	—	—	—	m	w
{ 74	.6	m	—	—	—	—	w	—
83	.3	m	w	—	m	—	w	—
101	1.1	w	—	s	s	—	m	m
102	.1	m	—	w	m	—	s	s
123	1.4	m	—	w	—	—	m	w
77*	.2	w	—	—	m	—	w	—
{ 33	1.3	m	—	—	—	—	s	—
34	.3	s	m	—	—	m	s	—
{ 9	.3	w	—	—	—	—	s	—
23	1.8	m	—	—	—	—	w	w
100	.2	w	—	m	s	—	m	m
103	.1	s	—	w	—	—	m	m
Average:	.39	m	—	—	—/w	—	m	w

Group 8

Head 1. Symbol – dolphin

Drachms: { 19	1.7	w	—	—	—	—	s	—
29*	3.2	w	—	—	—	—	m	w
{ 72	.5	w	—	—	—	—	s	—
86	2.6	m	—	w	—	—	m	m
111	.5	w	—	w	m	—	s	m
{ 119	1.9	m	—	w	—	—	w	w
120	2.4	w	m	w	—	m	s	s
Average:	1.8	w	—	w/—	—	—	m/s	w

\* Illustrated on PLATE VIII.

TABLE V  
*Silver Drachms of Chalkis*

## Group 1

Head 1, eagle l. or r. Symbol – flower ("balaustion")

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
Drachms: 4*	6.7	w	—	—	—	—	w	—
33	4.0	s	w	w	—	—	w	—
34	29	s	—	m	—	—	w	—
35	6.2	m	—	w	—	m	w	—
36	16	s	—	s	—	—	s	—
49	12	s	—	w	—	—	w	—
50	6.3	w	w	w	—	w	m	w
same pair of dies { 119	5.7	m	—	w	—	w	m	m
165	16	m	w	s	s	m	s	m
168	11	w	w	s	s	w	s	s
51	4.4	m	m	w	—	—	s	w
52	5.7	m	—	w	—	w	m	w
53	5.9	s	w	m	—	—	w	—
105	16	s	w	s	s	—	s	s
164	8.3	s	—	m	s	—	s	m
169	8.7	m	—	w	m	—	s	m
170	7.2	s	w	s	s	—	m	w
Average:	9.1	m	w/—	m	—/s	—/w	m	w

## Group 2

Head 1., eagle l. Symbol – race torch

Drachms: 31	8.4	m	—	w	—	—	w	—
32	8.8	w	—	w	—	—	m	m
37	5.0	w	—	w	—	—	w	—
115*	8.4	m	—	w	—	—	w	—
144	12	s	m	s	—	—	s	—
154	3.3	m	w	—	—	—	s	—
187	10	s	m	m	—	s	w	w
Average:	8.0	m	w/—	w	—	—	m	—/w

\* Illustrated on PLATE IX.

TABLE V

Group 3 Head r., eagle r. Symbol – kantharos

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
Drachms: 8	7.4	w	—	—	—	—	w	—
9	4.2	m	m	—	—	m	w	—
23	6.5	m	m	—	—	—	m	—
27	5.1	w	w	m	—	—	s	m
64	20	s	w	m	—	—	s	—
65	5.9	—	—	—	—	—	s	w
111	7.4	w	m	—	—	s	s	w
122	8.7	w	—	—	—	—	s	—
138	20	m	—	m	—	—	s	—
142	10	m	—	w	w	w	s	—
148	4.2	—	—	w	—	—	m	—
153	6.2	w	m	w	—	m	w	—
155	5.9	—	w	w	—	—	m	—
210*	4.5	w	—	w	—	—	s	m
222	6.5	w	—	w	—	—	s	—
Average:	8.2	w	w	w	—	—/w	m/s	—/w

Group 4 Head r., eagle r. Monogram (IH)

Drachms: 10	7.2	m	—	—	—	—	w	w
12	4.6	m	—	—	—	—	w	—
14	14	s	—	—	—	—	w	—
16	5.7	—	—	—	—	—	s	w
26	5.3	w	—	—	—	—	m	w
99	5.6	m	—	—	—	w	m	w
100	8.0	—	—	—	—	—	m	—
101	7.0	—	—	—	—	w	w	w
102	6.3	m	—	—	—	—	m	w
104	7.2	m	s	—	—	s	s	m
106	6.8	w	—	w	—	w	w	—
108	3.1	m	—	w	—	w	s	m
109	4.9	m	—	s	—	s	s	s
110	2.7	m	m	w	—	w	s	s
117	7.0	w	—	w	—	—	—	—
123	5.8	w	w	w	—	w	—	—
124	8.3	w	—	w	—	—	m	w
125	13	s	s	w	s	w	s	—

TABLE V  
(continued)

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
126	4.0	m	s	w	—	—	m	—
127	7.7	—	—	w	—	—	m	w
128	2.5	s	w	w	s	—	m	w
129	8.0	w	w	w	—	—	s	w
130	4.2	—	w	w	w	—	s	m
131	5.9	m	—	w	—	—	m	w
150	11	m	—	w	s	—	s	w
151	9.1	w	—	—	—	—	s	w
162	4.9	m	—	—	—	m	m	w
174	12	m	—	—	—	—	s	w
175	13	s	w	m	s	w	s	w
178	9.1	m	s	s	s	—	s	s
183	5.7	m	—	w	—	—	w	w
186	9.5	s	s	w	—	s	m	w
189	3.5	m	—	—	—	m	m	—
190	6.2	s	w	m	—	w	s	—
195	7.5	m	—	w	—	—	m	—
196	7.2	m	—	w	—	—	m	w
198	5.9	w	—	w	—	—	m	w
199	3.8	w	—	w	—	—	w	w
200	6.2	w	—	w	—	—	s	w
201	11	w	m	w	—	—	m	w
202	7.2	w	—	w	—	—	m	w
203	6.9	w	—	w	—	—	m	w
204	9.3	s	—	w	—	—	m	w
205	14	w	—	w	—	—	m	w
206	8.7	w	—	—	—	—	s	w
215*	8.0	m	—	w	—	—	s	w
216	7.2	m	—	—	—	—	s	m
217	9.5	w	—	w	—	—	s	w
224	5.9	w	—	w	—	—	s	w
225	8.7	—	—	—	—	—	s	w
Average:	7.3	w/m	—/w	w/—	—	—/w	m/s	w

\* Illustrated on PLATE IX

§ Notes VI

TABLE V  
Group 5 Head r., eagle r. Symbol – "C" wreath

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
Drachms: 2*	3.6	m	—	w	—	—	s	m
19	2.2	w	—	w	—	s	s	—
25	4.9	w	m	—	—	w	w	—
54	5.7	m	—	w	—	—	m	—
55	2.7	m	w	w	—	—	s	—
56	3.6	—	m	w	—	w	w	—
109	1.9	w	—	—	—	—	w	—
113	3.3	m	—	—	—	—	m	w
134	3.6	w	—	w	—	—	w	—
172	5.7	s	w	w	—	w	s	w
173	7.2	w	—	m	—	—	m	—
180	.5	w	—	—	—	—	s	w
181	4.7	w	—	—	—	—	m	w
182	.4	w	—	—	—	—	w	w
207	4.9	w	—	—	—	w	s	w
211	3.7	w	—	w	—	—	m	—
221	5.4	w	—	w	—	—	s	—
Average:	4.2	w	—	w/—	—	—/w	m	—/w

Group 6 Head r., eagle r. Symbol – trophy

Drachms: 7	6.7	m	s	w	—	w	w	—
13	4.2	—	w	w	—	—	w	—
21	11	w	m	m	—	w	s	m
forgery: 24*	very high	—	s	s	—	—	—	—
45	8.3	m	w	w	—	—	w	—
46	7.2	m	w	w	—	w	w	—
47	7.2	m	—	w	—	w	s	w
48	4.4	—	—	w	—	—	s	—
97	23	—	—	w	—	—	s	—
98	15	m	—	m	—	s	s	—
107	7.0	—	—	w	—	—	s	—
112	8.3	m	—	s	—	—	s	w
116*	4.4	—	—	w	—	—	m	w
140	4.6	w	m	w	—	w	w	w
141	3.4	—	—	w	—	—	w	—
147	2.0	—	—	w	—	—	w	—

\* Illustrated on PLATE IX.

## EUBOEAN MONETARY SILVER

61

TABLE V  
(continued)

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
188	6.9	w	—	w	—	—	m	m
191	11	w	—	m	s	—	m	m
214	5.7	w	—	w	—	—	w	—
219	8.0	w	—	w	—	—	m	—
Average:	7.3	w	—/w	w	—	—/w	m	—/w

## Group 7

Head r., eagle r. Symbol — trident l.

Drachms: 5*	16	w	—	—	—	—	w	—
38	6.2	m	—	—	—	—	w	—
39	3.8	m	w	w	—	—	w	—
44	6.5	w	w	—	—	—	s	—
121	1.4	m	w	—	—	—	m	—
Average:	6.8	m/w	w/—	—	—	—	w/m	—

## Group 8

Head r., eagle r. Symbol — pronged trident r.

Drachms: 29	2.9	—	—	—	—	—	w	—
30	4.2	m	—	—	—	—	w	—
149	5.9	m	—	—	—	—	w	—
160*	1.8	w	—	—	—	—	m	w
Average:	3.7	m/w	—	—	—	—	w	—

## Group 9

Head r., eagle r. Symbol — “Ω” wreath

Drachms: 3*	1.2	w	—	—	—	—	s	—
17	10	m	—	w	—	—	s	—
66	4.2	m	—	w	s	m	w	—
152	3.1	m	w	w	—	—	w	—
209	17	w	—	—	—	—	m	—
Average:	5.5	m/w	—	w/—	—/+	—	m	—

(irregular)

\* Illustrated on PLATE IX.

,\*

TABLE V

## Group 10

Head r., eagle r. Symbol – caduceus

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminum
Drachms: 1	5.9	m	—	w	—	—	s	w
15	20	s	—	w	s	—	s	w
20	9.1	s	s	s	—	—	s	m
41	5.4	m	—	m	—	—	s	w
42	5.0	s	m	m	—	s	w	w
43	4.2	s	m	w	—	s	w	—
135	4.4	w	w	—	—	—	w	w
136	3.1	s	m	w	—	m	w	w
137	3.1	m	w	—	—	w	m	m
143	3.1	m	—	—	—	—	s	w
145	2.9	w	—	—	—	—	s	—
146	4.8	w	—	—	—	—	s	—
156	5.9	w	w	w	—	w	w	—
157	5.0	s	—	—	s	s	w	—
177	3.8	w	—	—	—	—	s	w
191	5.9	w	—	w	—	m	w	w
192	25	w	—	w	—	s	s	—
193	4.1	w	w	—	—	m	s	w
208	3.5	w	—	—	—	—	s	w
213	8.7	w	—	—	—	—	m	w
218*	3.5	w	—	—	—	—	m	w
Average:	6.5	m	—/w	—/w	—	—/m	s/m	w

(minus 15 &amp; 192 : 4.7)

## Group 11

Head l., eagle l. Symbol – star

Drachms: 6	2.0	s	m	w	—	—	m	w
28	.7	m	—	—	—	—	m	—
118*	.6	s	—	—	—	—	w	—
185	.1	m	m	—	—	—	m	w
Average:	.8	m/s	m/—	—	—	—	m	—/w

\* Illustrated on PLATE IX.

TABLE VI  
*Karystos didrachms* – Cow and calf / Cock with KA-PYΣ

Description and No.	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Aluminium
Didrachms 2	0.46	w	—	—	—	—	w	—
4	0.30	m	—	w	—	m	w	—
5	0.14	m	—	—	—	—	w	—
6	0.29	m	—	—	—	—	w	—
7	0.97	m	w	—	—	—	w	—
8	0.97	—	—	w	—	—	s	m
17	4.0	m	w	—	—	—	s	—
18	0.38	m	—	—	—	—	w	—
19	2.0	m	—	—	—	—	w	—
25	0.09	m	—	—	—	—	m	—
29	0.17	w	—	—	—	—	m	m
30	0.90	m	w	—	—	—	s	—
33	0.38	w	—	—	—	—	m	—
Average:	.85	m	—	—	—	—	w/m	—

TABLE VII  
*Athenian silver coins* – Earlier issues

Group 1									
6th cent. tetr.	11	0.09	—	—	—	—	—	m	—
5th „ „	1	0.03	—	—	m	—	—	m	—
„ „ „	2	0.77	w	—	w	—	—	s	—
„ „ „	3	0.09	—	—	w	—	—	m	—
„ „ „	4	0.18	—	—	w	—	—	m	—
„ „ „	6	0.23	—	—	—	—	—	m	—
„ „ „	8	0.21	—	—	—	—	—	w	—
„ „ „	9	1.3	—	—	w	—	—	s	—
„ „ „	12	0.13	—	w	w	—	—	w	—
„ „ „	“D”	0.04	—	—	—	—	—	w	—
„ „ drachm	14	0.03	—	—	m	—	—	w	—
„ „ „	15	0.03	—	—	w	—	—	s	—
„ „ „	“H”	0.09	—	—	—	—	—	w	—
„ „ obol	16	0.02	—	—	w	—	—	w	—
4th „ tetr.	13	0.08	—	—	w	—	—	s	—
„ „ „	10	0.05	—	—	—	—	—	s	—
„ „ „	“C”	0.21	—	—	—	—	—	w	—
„ „ „	“G”	0.03	—	—	—	—	—	w	—
„ „ plated „	5	0.03	—	—	—	—	—	s	—
Average:		.19	—	—	w/—	—	—	m	—



TABLE VII

Group 2<sup>14</sup>

"New Style" – 2nd century B.C.

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- num
Tetradrachm: 1	0.50	w	—	w	—	—	s	w
2	0.31	w	—	w	—	—	s	m
2 A	0.05	—	—	w	—	—	s	s
3	0.06	—	s	w	—	—	s	m
4	0.07	w	—	m	—	m	s	w
5	0.03	—	—	w	—	—	s	s
6	0.02	—	—	w	—	—	s	m
7	0.04	w	—	m	—	—	s	m
8	0.07	—	—	m	—	—	s	m
9	0.09	w	—	w	—	—	s	s
10	0.08	m	—	w	—	w	s	m
11	0.04	—	—	s	—	—	s	m
12	0.04	w	—	w	—	—	s	s
13	0.09	—	—	w	—	—	s	w
14	0.03	m	—	w	—	—	s	s
15	0.02	—	—	w	—	—	s	s
16	0.06	—	—	w	—	—	s	s
17	0.02	—	—	w	—	—	s	s
18	0.03	w	—	m	—	—	s	m
19	0.06	w	—	m	—	—	s	m
20	0.02	m	—	w	—	—	s	s
21	0.01	w	—	w	—	—	s	s
22	0.06	m	—	w	—	—	m	w
23	0.05	m	—	w	—	—	s	s
24	0.06	m	—	w	—	—	s	m
25	0.04	w	—	w	—	—	s	s
26	0.05	—	—	w	—	—	s	w
26 A	0.03	—	—	w	—	—	s	s
27	0.07	—	—	w	—	—	s	s
28	0.07	—	—	w	—	—	s	m
29	0.04	—	—	m	—	—	s	s
30	0.07	—	—	m	—	—	s	m
31	0.02	s	—	w	—	—	s	m
31 A	0.04	m	—	w	—	—	s	m
32	0.13	s	—	m	—	—	s	m
33	0.15	m	—	m	—	—	s	w
34	0.03	—	—	w	—	—	s	m

<sup>14</sup> These coins, which form all or part of a hoard, are to be published shortly by Mr. F. H. Armstrong.

(continued)

Coin number	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
35	0.04	—	—	w	—	—	s	w
36	0.03	—	—	m	—	—	s	w
37	1.2	s	—	m	—	—	w	w
38	0.07	w	—	m	—	—	s	w
39	0.21	s	—	w	—	—	s	w
40	0.06	—	—	w	—	—	s	s
41	0.09	—	—	w	—	—	s	w
Average:	.10	—/m	—	w/m	—	—	s	m

TABLE VIII  
*Miscellaneous Coins*

Description of coin	Copper %	Gold	Tin	Lead	Zinc	Iron	Silicon	Alumi- nium
6th cent. Aegina st.	.66	m	—	—	m	—	s	—
„ „ „ hemidr.	5.9	s	—	m	—	s	s	—
„ „ Kroton st.	10	w	—	w	—	w	—	—
„ „ Thasos st.	.64	—	—	—	—	—	w	—
„ „ „ diobol	3.6	m	—	—	—	—	w	—
5th cent. „ tetrob.	2.9	—	—	—	—	—	m	—
„ „ Mende hemiob.	.66	—	—	—	—	—	s	—
„ „ Abdera dr.	.34	m	—	—	—	—	s	—
„ „ Eion obol	.13	—	—	—	—	—	s	—
„ „ Neapolis st.	.18	m	—	—	—	—	m	w
„ „ Paros dr.	.08	w	—	m	—	—	—	—
„ „ Thebes st.	3.5	m	—	—	—	—	w	—
„ „ Kroton obol	2.1	m	—	—	—	—	w	—
4th cent. Thasos obol	7.4	—	—	—	—	—	w	—
„ „ Neapolis dr.	.11	—	—	—	—	—	m	w
„ „ Corinth. st.	4.2	m	—	—	—	—	s	—
„ „ „ hemidr.	5.7	m	—	w	—	—	w	—
„ „ Tanagra obol	5.9	m	—	—	—	—	—	—
„ „ Philip II tetr.	.04	m	—	—	—	—	w	—
„ „ Alexander tetr. (Amphipolis)	.16	m	—	—	—	—	m	—
„ „ Alexander tetr.	.32	m	—	—	—	—	m	—
c. 100 B.C. Bactria dr. (Menander)	.17	—	—	—	—	—	m	w
Average:	? <sup>15</sup>	—/m	—	—	—	—	w/m/s	—

<sup>15</sup> Ten show 2–10%, 12 show under 1%.

## KEY TO THE PLATES

## PLATE VIII

*Silver Issues of the Euboean League, 410 to c. 270 B.C.*

1. Aeginetic Didrachm	175.1 grs (11.35 gms)	Table IV, Group 1
4. Tetradrachm	249.4 grs (16.16 gms)	Table IV, Group 1
55. Attic drachm	59.4 grs (3.85 gms)	Table IV, Group 1
91. Ancient forgery	53.6 grs (3.47 gms)	Table IV, Group 1
71. Attic drachm	61.9 grs (4.01 gms)	Table IV, Group 1
54. Drachm (high relief)	54.2 grs (3.51 gms)	Table IV, Group 2
60. Drachm (no symbol)	56.3 grs (3.65 gms)	Table IV, Group 3
5. Drachm (grapes)	56.2 grs (3.64 gms)	Table IV, Group 4
49. Drachm (kantharos)	57.9 grs (3.75 gms)	Table IV, Group 5
87. Drachm (lyre)	57.4 grs (3.72 gms)	Table IV, Group 6
77. Drachm (satyr's head)	56.2 grs (3.64 gms)	Table IV, Group 7
29. Drachm (dolphin)	56.7 grs (3.67 gms)	Table IV, Group 8

## PLATE IX

*Silver Issues of Chalkis in 4th-3rd centuries B.C.*

4. Drachm (flower)	54.5 grs (3.53 gms)	Table V, Group 1
115. Drachm (race-torch)	54.3 grs (3.51 gms)	Table V, Group 2
210. Drachm (kantharos)	56.9 grs (3.68 gms)	Table V, Group 3
215. Drachm (monogram)	56.2 grs (3.64 gms)	Table V, Group 4
2. Drachm ('C' wreath)	56.2 grs (3.64 gms)	Table V, Group 5
116. Drachm (trophy)	54.5 grs (3.53 gms)	Table V, Group 6
24. Modern forgery	54.1 grs (3.50 gms)	Table V, Group 6
3. Drachm ('Ω' wreath)	53.9 grs (3.49 gms)	Table V, Group 9
5. Drachm (trident l.)	55.1 grs (3.57 gms)	Table V, Group 7
160. Drachm (trident r.)	56.0 grs (3.60 gms)	Table V, Group 8
218. Drachm (caduceus)	55.6 grs (3.61 gms)	Table V, Group 10
118. Drachm (star)	52.1 grs (3.38 gms)	Table V, Group 11

## PLATE X

*Representative Selection of Spectra*

This plate enables the reader to see at a glance some of the more obvious differences between the spectra of the Euboean League coins, the Chalkis coins, and the standard alloys. The forgery of a Chalkis drachm with the trophy symbol (no. 24: see PLATE IX) stands out very clearly from the others. Only a small part of each of the spectra is shown here.

## PLATE XI

*Lines Indicating the Presence of Impurities*

This plate shows the spectra (in part) of eighteen coins, and indicates the lines which were employed in this part of the spectrum to identify the various impurities. It can be seen that the intensity of the various lines varies from spectrum to spectrum.

E. J. ALLIN AND W. P. WALLACE



## THE OVERSTRUCK COINAGE OF PTOLEMY I\*

(SEE PLATES XII–XIII)

Some time ago B. V. Head wrote: “The long series of the coins of the Ptolemies is generally admitted to be the most difficult to classify in the whole range of Greek numismatics.”<sup>1</sup> The statement still holds, especially for the coinages of Ptolemy II through Cleopatra VII, which use almost identical types from the early third to the late first century B.C. The gold and silver coinage of Ptolemy I is more varied, showing a gradual transition from the weights and types inherited from Alexander III to the lower Ptolemaic weights and portrait types, but many of its problems are still to be solved. The generally accepted dating for these issues is that used by Svoronos in his corpus of Ptolemaic coinage, *Τὰ Νομίσματα τοῦ Κράτους τῶν Πτολεμαίων* (published in 1904); his dates follow those of Poole in the BMC catalogue (1883), who in turn based them on the stages of Ptolemy’s rule determined by Lepsius in *Königsbuch der alten Ägypter* (1858). According to this classification, Ptolemy’s reign is divided into the following periods:

**323–317:** Alexander dies. Ptolemy rules as satrap for Philip III and Alexander IV.

**317–311:** Philip III dies. Ptolemy rules as satrap for Alexander IV.

**311–305:** Alexander IV dies. Ptolemy rules as satrap without a king.

**305–285:** Ptolemy proclaims himself king, and rules as such until his retirement in favor of his son.

\* This paper was originally submitted as a report for the American Numismatic Society’s first Summer Seminar in 1952. The writer expresses herself deeply indebted and grateful to the staff of the Society for whatever research and results are embodied herein. Without their advice, technical assistance, and above all their encouragement, the paper could never have been written.

B.E.

<sup>1</sup> B. V. Head, *Historia Numorum*, 2nd ed. (Oxford, 1911), p. 846.

Although this is a convenient way of dividing the stages of Ptolemy's rule, it is perhaps too much to believe that the stages of his coinage coincide exactly with it.<sup>2</sup> It will be suggested in this study

### GOLD AND SILVER SERIES OF PTOLEMY I<sup>3</sup>

<i>Type</i>	<i>Description</i>	<i>Weight</i>	<i>Dates</i>	<i>Corrected dates</i>
A	<i>Α</i> stater, Alexander types	8.5 gm.	323-317	323-318
	<i>Α</i> tetradrachm, Alexander types	17 plus	323-317	323-318
B	<i>Α</i> stater, Alexander types	8.5	317-311	318-312
	<i>Α</i> tetradrachm, new obverse	17 plus	(Regling 323-317)	
C	<i>Α</i> stater, Alexander types	8.5	311-305	312-305
	<i>Α</i> tetradrachm, new reverse	17 plus	(Regling 317-305)	
D	<i>Α</i> stater, Ptol. I portrait	7.5	305-(?)285	305-(?)285
	<i>Α</i> tetradrachm, types of C	15.6		

that the series designated in the table above as B and C each started a year earlier than they are conventionally dated, and that in each case the new issue commemorates a major territorial gain rather than the death of one of Alexander's heirs (Ptolemy's nominal superiors), as is generally assumed. No change is suggested in the dating of series D, but the main purpose of this study will be to consider the hitherto unnoticed presence of numerous overstrikes in this series: a phenomenon which sheds light both on the dating of other series and on the financial position and policy of Ptolemy I. Observation of the American Numismatic Society's specimens of the series, nearly 350 in number, revealed 45 so clearly overstruck that details of the previous

<sup>2</sup> The correspondence of gold with silver issues in each successive series, and the sequence of the series, is already established by style and by the coordination of symbols and monograms. No attempt will be made in this study to arrange the issues bearing different symbols and monograms within each series, nor to arrange the bronze coinage, which is difficult to assign and cannot help in the dating of the silver.

<sup>3</sup> Regling, in his review of Svoronos' corpus in *Zeitschrift für Numismatik*, XXV (1906), p. 344, suggested corrections in the latter's dating. These corrections are given in brackets in the accompanying table, as later evidence indicates that Svoronos' dates are more nearly correct.

type can be made out and at least 25 more with traces of overstriking.<sup>4</sup> This writer is inclined to think that a good many more have been overstruck more effectively — supposing, as C. H. V. Sutherland does for the South Italian incuse coinages, “a normal proportion of badly executed overstrikes magnified in proportion to abnormal . . . overstriking.”<sup>5</sup> The tetradrachms of series D appear to be overstruck on tetradrachms of the three preceding series, A, B, and C (it is important to note that none of the coins of these three series is overstruck.) Here we find a phenomenon unique, so far as the writer knows, in overstruck coinage: the new D tetradrachms are all approximately 1.5gm. lighter than extant examples of their undertypes A, B, and C. The difference cannot be merely haphazard, or the result of wear on the old coins: it is too great and too consistently maintained. Ptolemy’s government must have called in the heavier series (which were, presumably, all simultaneously in circulation before the issue of D), lightened them, restruck them, and reissued them as tetradrachms identical in type but weighing 1.5gm. less than the previous issue; this explains why relatively few of the earlier, heavier coins have come down to us. By this measure the government was able to coin about nine tetradrachms from the amount of silver previously required for eight. Meanwhile the gold-silver ratio was not seriously disturbed, as a new low-weight gold stater was issued together with the low-weight tetradrachm; it was, however, a shortage of silver rather than gold that provoked the lowering of weights, as this study will attempt to demonstrate. We have other examples of such arbitrary manipulation of currency by the Ptolemaic government, but so far none in antiquity for the method of overstriking here employed.

When Ptolemy became satrap in 323, Egypt was using the standard Alexander coinage introduced by the latter after his conquest of that

<sup>4</sup> Overstriking does not appear to an equal extent in all issues of this series; some issues appear not to be overstruck at all, others almost entirely so. Especially rich in overstrikes is a group of issues which all bear the symbol of a helmet as well as monograms (in the ANS collection: Svoronos nos. 162, 164, 165, 168, 169, 170, 174, 177).

<sup>5</sup> C. H. V. Sutherland, “The ‘Incuse’ Coinages of South Italy,” *ANS Museum Notes* III (1948) p. 20.



country in 331.<sup>6</sup> Hoard evidence indicates that, beyond the coinage actually minted in Egypt, large numbers of tetradrachms from Alexander's other mints also circulated there. Of an estimated 7000 to 8000 tetradrachms in the Demanhur Hoard, a minority were from the mint of Alexandria; over a third were coined in Amphipolis. Much, if not all, of the silver minted abroad probably entered through trade: Cleomenes, Alexander's finance minister, was able to build up a fortune by selling Egyptian grain to the Greek world at high prices.<sup>7</sup> Ptolemy probably continued to mint coinage exactly similar to that of Alexander (series A) for some years after his accession to the satrapy.<sup>8</sup> The first modification (series B) affects only the obverse type of the silver. There is no change in the gold types, and the weights of both gold and silver remain Attic, with five tetradrachms equal to one gold stater and the ratio of silver to gold 10 : 1, as it had been under Alexander. The obverse type of the silver changes from a head of Heracles wearing a lionskin to a very similar head of Alexander, wearing an elephant skin headdress and the horn of Ammon. Again in the next series, C, only the type of the silver is affected: now the reverse changes from Alexander's familiar seated Zeus to Athena Alcidemos, striding to the right and hurling a spear.<sup>9</sup> The weights of the gold stater and the tetradrachm remain the same, but the drachms and hemidrachms of this issue are struck below the Attic standard: the drachm weighs about 3.5gm. (whereas the normal Attic drachm is something over 4gm.), and the hemidrachm about 1.8gm. It may be noted that the types of drachm and hemidrachm here reproduce exactly those of the tetradrachm, although the common practice in Greek or indeed in any currency is to denote different denominations by different types. In the next series, D, both tetradrachm and gold

<sup>6</sup> E. T. Newell, *Alexander Hoards: Demanhur*, (NNM No. 19), 1923, p. 145, expresses the belief that tetradrachms were not actually minted at Alexandria until the year 326.

<sup>7</sup> M. Rostovtzeff, *The Social and Economic History of the Hellenistic World* (Oxford, 1941), p. 169.

<sup>8</sup> Regling's suggestion in the review mentioned above (note 2) that series A ceased to be struck immediately after Alexander's death is unlikely, especially in view of the fact that so few (if any) series B tetradrachms were found in the Demanhur Hoard, buried in 318 or 317.

<sup>9</sup> For a discussion of the type see A. B. Brett, "Athena Alkidemos of Pella," *ANS Museum Notes* IV (1950), p. 55.

stater are struck below the Attic standard: the stater at 7.5gm., the tetradrachm at 15.6gm. The gold type changes for the first time, with a portrait of Ptolemy I on the obverse. It is very important to note that there is no change at all in the silver types from those of series C; in fact, the lowering of weight even seems to have occurred in mid-issue, as we have coins of both series bearing the same monogram.<sup>10</sup> The weight change was abrupt, not gradual, and must have been deliberate: for the mint was certainly able to regulate the weights of its coins with great exactness. Svoronos' catalogue shows a deceptive amount of variation in the tetradrachm weights, which he has listed wherever they were available to him. It must be borne in mind that the coins listed were not all equally worn, nor all weighed on the same scale, so that the diversity of weights undoubtedly appears greater than it is. Under ideal conditions (i.e. when a number of equally worn coins of the same issue are weighed on the same scale, as was possible at the American Numismatic Society), the weights are remarkably close.

This paper will not deal with the next series, in which the stater remains at the same weight, while the tetradrachm drops still farther (in two stages) to a weight of slightly less than 14.5gm. The change occurred late in the reign of Ptolemy I, or perhaps was initiated by Ptolemy II; there appears so far to be no way of dating it exactly. However, there is a good deal of evidence enabling us to modify the traditional dating of the earlier series, to which we may now turn.

Svoronos, as the table on p. 70 shows, dated the start of type B to 317, following the death of Philip III. This event had a purely nominal significance for Ptolemy, who ever since his defeat of Perdiccas in 321 had treated Egypt as "spear-won" territory (that is, as his own property), though technically he still ruled it as satrap for Philip III and Alexander IV. After the death of Antipater in 319, Ptolemy invaded and annexed Phoenicia and Syria; it seems to the writer that this event, of more practical importance to Ptolemy than the death of

<sup>10</sup> Svoronos nos. 37 and 110. The writer does not subscribe to A. B. Brett's theory (*Transactions of the International Numismatic Congress*, 1936, p. 23), based on style and the presence of an aphlaston on some coins with this monogram (Svoronos no. 154), that the weight change took place in about 309. The aphlaston cannot definitely be said to commemorate Ptolemy's annexation of Cyprus in 310.

Philip III, is also more likely to have been commemorated by a new currency issue.<sup>11</sup> Although there is no definite proof that series B started a year earlier than it is usually dated, the contents of the Demanhur Hoard strengthen our conjecture. The burial of this hoard is placed in 318 or early 317 by the fact that the latest dated coins in it, from the mints of Sidon and Ake, were issued in 318.<sup>12</sup> If coins of type B appear in this hoard, the type must have been issued before the death of Philip III in 317. Unfortunately, the evidence on this point is not quite clear. Newell writes: "It is still somewhat uncertain whether our hoard contained any specimens of the next series of Egyptian Alexander tetradrachms — those, namely, with the portrait of Alexander himself, clothed in the elephant's skin headdress, on the obverse . . . These must have followed closely on the series described above [Alexander's coinage, with conventional types, struck at Alexandria], as the Zeus figure of the reverse is identical in style and details with those found on our coins. One variety, moreover, has the same symbol and monogram as our 4822-6.<sup>13</sup> M. Dattari was of the opinion that the Demanhur Hoard contained 10 of these pieces. Although M. Dattari is in all probability absolutely right, they have not been included in our study, as the writer has throughout been careful to limit himself only to the pieces he has actually seen and handled."<sup>14</sup>

With this uncertain testimony, it cannot be definitely assumed that series B was issued in 318; there is surely, however, no inherent

<sup>11</sup> No conclusion as to the dating of the type can be drawn from its iconography. Babelon, "Alexandre ou l'Afrique?", *Aréthuse*, III (1924), p. 95, suggested that the type was inaugurated in 312 to commemorate the battle of Gaza, in which elephants played an important part (symbolized, Babelon thought, by the elephant-skin headdress). As Babelon believed that C was issued after the death of Alexander IV in 311, he was assigning to series B a duration of a little over a year at best. He was no doubt reinforced in his conclusion by the observation that there are so few specimens extant of series B. However, the discovery of the overstruck coins in series D now invalidates any arguments for dating based on the rarity, and therefore short duration, of either this type or the following, C; for we can be sure that the number of specimens we now have is no index of the number originally struck.

<sup>12</sup> Newell, *Demanhur*, p. 152.

<sup>13</sup> The symbol on this issue, a Pegasus, caused Svoronos to date it to the years 309/8-307/6, when Ptolemy controlled Corinth. E. T. Newell here attributes the issue to Alexandria, at an earlier date, on stylistic grounds.

<sup>14</sup> Newell, *Demanhur*, p. 146.

reason for preferring the date 317. And we do have definite proof that the next change in the coinage, assumed by Poole and Svoronos to have followed on the death of Alexander IV in 311, must be dated a year earlier. In this instance the change quite evidently is connected with an important annexation of territory, rather than with the death of a distant puppet ruler (Alexander IV died at the age of thirteen, after seven years of virtual imprisonment in Macedonia.) In 312 Ptolemy and Seleucus defeated Demetrius, son of Antigonus, in a battle at Gaza. As a result of the battle Seleucus was able to recover his satrapy of Babylon, from which he had been driven in 316 at the onset of Antigonus' aggressive policy in Asia; Ptolemy recovered the territory in Syria and Phoenicia from which he too had been forced, in 315, by Antigonus. The only exactly dated issue known of Ptolemy I's silver is a coin of the new type, C, with Athena Alcidemus on the reverse: to the left of Athena is ΣΙ, the mintmark of Sidon; to the right, the numeral X (22, in the numeral system current at Sidon).<sup>15</sup> Ptolemy took possession of Sidon after the battle of Gaza; it is not known how long he remained, but it was certainly not more than a year, as he was forced by Antigonus to retreat from his Syrian and Phoenician territories in 311. The start of series C is thus surely dated before the death of Alexander IV.<sup>16</sup>

As for the next series, the gold staters with the portrait of Ptole-

<sup>15</sup> One specimen of this issue is in the ANS collection. Its implications for the dating of series C are stated by A. B. Brett in *Transactions of the International Numismatic Congress*, 1936, p. 23. The only other specimen extant (so far as I know) is published by A. Bellinger in *Berytus*, 1950-51.

<sup>16</sup> Although we must date the beginning of this series before 311, there is an issue within the series which can be tentatively attributed to the period following Alexander IV's death. Diodorus says (XX. 53) that after the battle of Salamis in 306 the successors of Alexander adopted the title "Basileus"; and coinage bearing their names, titles and portraits (e. g. the gold of series D) has been assumed to start at this date. Diodorus earlier (XIX. 105) says that, after the death of Alexander IV, "there being no longer anyone to succeed to the royal power, each of those who ruled over peoples and cities had kingly hopes, and held the land he possessed as a spear-won kingdom." Perhaps we may connect this with one issue of series C which bears on the reverse ΑΛΕΞ-ΑΝΔΡΕΙΟΝ ΠΤΟΛΕΜΑΙΟΥ (either "coin of Alexander struck by Ptolemy" or "coin of Alexandria struck by Ptolemy") instead of the usual legend ΑΛΕΞ-ΑΝΔΡΟΥ. The inscription was apparently unpopular and soon discontinued, as all other series C tetradrachms, and those of the subsequent series D, have ΑΛΕΞΑΝΔΡΟΥ.

my and legend ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ establish its date of issue unquestionably in the year 305, or at the earliest late 306.<sup>17</sup> It is the lowering of weight in this series, and in the fiduciary silver of the preceding series, that demands explanation. Poole confused the issue by classifying the light drachms and hemidrachms of series C as struck on the "Rhodian standard," and considering them transitional to the light tetradrachms of series D, which he also labelled "Rhodian": "The peculiarity of a double standard of weight, Attic and Rhodian, would be due to the place of this issue as a link between the wholly Attic second coinage and the wholly Rhodian fourth."<sup>18</sup> There is actually no question here of a double standard of weight, perhaps not even of a premeditated connection between the successive light-weight issues (drachms and hemidrachms of series C, tetradrachms of D): simply, an initial attempt to save silver in the small currency was followed by a more drastic measure in the next series. The fiduciary silver of series C was struck slightly light, as our own fiduciary currency is. The types of drachm and hemidrachm may deliberately have been made identical with those of the tetradrachm, in this series still full-weight, in order to insure their acceptance by the public.

Poole's attempt to identify this new and wholly indigenous weight system with one already in existence has led to a good deal of later error, such as the statement of one numismatist that the weight change was "dictated by the necessity to play in with Rhodes."<sup>19</sup> In fact, Rhodes at the end of the fourth century was using an entirely different weight system in which the silver unit weighed a little over 13gm., not 15.6gm.; nor was any currency in the eastern Mediterranean area then being struck on the weight system adopted by Egypt. Undoubtedly the term "Rhodian," as applied to the tetradrachms of series D and the small silver of C, is not now used in a literal sense by most numismatists.<sup>20</sup> The same may be said for the

<sup>17</sup> Diodorus Siculus, XX. 53.

<sup>18</sup> R. S. Poole, *BMC, Coins of the Ptolemies* (London 1883), p. xviii.

<sup>19</sup> E. T. Newell, *Royal Greek Portrait Coins* (New York, 1937), p. 25.

<sup>20</sup> The difference between the two weight systems is explicitly recognized by W. Giesecke, *Das Ptolemaergeld* (Leipzig & Berlin, 1930), p. 5. Giesecke's own explanation — that the weight was originally Carthaginian, adopted by Cyrene and thence by Egypt — is not likely. Egypt had not extensive enough trade connections with the western Mediterranean to warrant this.

"Phoenician standard" with which Poole labelled the gold staters of series D. Here, too, the lowered weight is not borrowed, not an attempt to facilitate trade with Phoenicia, but a purely indigenous innovation. These fluctuating weights of gold and silver, which led Poole to the difficult conclusion that the gold was struck on one standard and the silver on another, actually reflect attempts to adjust the legal ratios of gold and silver in Egypt: in series C we still find the 10 : 1 ratio used by Alexander, in D it has risen to slightly over 10.5 : 1. The gradual lowering of coin weights indicates a simultaneous attempt, independent of the adjustment of ratios, to remedy a currency shortage.<sup>21</sup> Proof that such a shortage existed is furnished by the overstruck tetradrachms of series D.

These overstruck coins must now be considered in more detail, especially since their existence has to date passed unnoticed by numismatists. They are not mentioned in coin catalogues — not even in the corpus of Svoronos.<sup>22</sup> Only the catalogue of the McClean collection, to this writer's knowledge, lists one of its series D tetradrachms (No. 9762) as being "overstruck on uncertain coin." In the Pozzi sale catalogue it is possible to detect one overstruck coin (No. 3187) from its photograph; yet the coin is described as "superb" and no mention is made of the overstrike. For photographs the catalogues generally are of little help: they show, naturally, the best specimens of the series, not those which present such irregularities of surface as overstriking produces. Newell, in labelling his series D tetradrachms now in the collection of the American Numismatic Society, noted some of them as being "restruck" or even "struck over Alexander." They are, in fact, visibly struck over at least two types — series A and B — and almost certainly over C. It is hard, of course, to determine whether a coin with C undertype is really overstruck or simply a D coin doublestruck, since the types are identical and doublestriking is not uncommon in this series. However, the relative scarcity of extant specimens of series C makes it probable that this series, as well as A and B, was overstruck in

<sup>21</sup> This is the interpretation of Rostovtzeff, *SEHWW*, p. 369 ff., and of C. Préaux, *L'Économie Royale des Lagides* (Brussels, 1939), p. 267 ff.

<sup>22</sup> Svoronos does list some coins, and notably in series D, as Δίπαιστον; but this probably means "doublestruck," rather than "overstruck."

some quantity to form a part — how large a part it is impossible to say — of series D.<sup>23</sup> The three heavy series, all circulating simultaneously in Egypt, were withdrawn in late 306 or 305 and reissued, after being deprived of a part of their silver. Instead of being melted down into bullion, the coins must simply have been pared, heated, and restruck; the edges of some type D tetradrachms do have a pared or shaved appearance. The process was undoubtedly awkward, though the uniform weights of the resultant coins indicate that it could be carried out with great precision: its only advantage must have been that it took less time than the more thorough method. Evidently these coins were issued to answer a pressing need for silver currency, in a time when there was a shortage of it. This situation did, in fact, exist in 306 and 305, but to understand it we must examine the events of previous years.

Egypt produced no silver, or very little, although she had extensive gold deposits to the south.<sup>24</sup> Most of her silver had always come in through Aegean trade, but was not converted into currency; Egypt had no currency of her own until the time of Alexander.<sup>25</sup> Then the standard coinage of Alexander was introduced there, in which five tetradrachms were equivalent to a gold stater and the ratio of silver to gold 10 : 1. Even if the scarcity of silver in Egypt made the natural ratio of silver to gold abnormally low, as some commentators believe,<sup>26</sup> there would have been no difficulty in maintaining Alexander's currency as long as his empire remained a whole. Besides the coined silver brought in by trade, bullion was perhaps sent from other parts

<sup>23</sup> Regling (*op. cit.*) believed series C lasted for 13 years (317–05), giving the reason that the coins of this series are probably too numerous to have been issued between 311 and 305. Actually, the extant coins of this series are remarkably few. Svoronos lists 33, as compared with over 400 of series D; the ANS has only 30 of series C, over 340 of D.

<sup>24</sup> Flinders Petrie, "The Metals in Egypt," *Ancient Egypt* (1915), p. 12. For fuller discussions see K. Fitzler, *Steinbrüche und Bergwerke in ptolemaischen und römischen Ägypten*, Leipzig, 1910, and A. D. Lucas, *Ancient Egyptian Materials and Industries*, 3d ed. (London, 1948). Rostovtzeff, *SEHWW*, p. 382, expresses the belief that Egypt's gold deposits could not supply her needs for that metal in Ptolemaic times.

<sup>25</sup> J. G. Milne, "Trade between Greece and Egypt before Alexander the Great," *Journal of Egyptian Archaeology*, XXIV (1938), p. 200.

<sup>26</sup> J. G. Milne, in "Ptolemaic Coinage in Egypt," *JEA*, XV (1929), p. 150, suggests the ratio 2:1; see also Petrie, *op. cit.*

of the empire to the mint of Alexandria; we know that this was done for Sidon.<sup>27</sup> After the death of Alexander and the breakup of his empire, Ptolemy as satrap must have found it more difficult to procure silver; yet currency was undoubtedly now necessary to him in increasing quantities, especially to pay his Greek mercenaries. In spite of the fact that he was in a more difficult position than the other successors of Alexander, who had access to natural silver supplies, Ptolemy's lavish expenditures have given to ancient and modern commentators the impression that he was enormously rich.<sup>28</sup>

Handicapped by Egypt's natural silver deficiencies, how did Ptolemy obtain his currency? Rostovtzeff has shown, by a study of papyrus accounts, that a large part of Ptolemy II's revenues came from his domains in Syria and Phoenicia.<sup>29</sup> This was certainly true for Ptolemy I too, in the intermittent periods when he controlled those areas. Apart from this, the bulk of Egypt's coinage was supplied by the Greek world in payment for exports. To secure a favorable balance of trade (and thus keep currency in the country), high tariffs were put on imports, industries were developed, and more land was put under cultivation. Some of this land was assigned to the mercenary troops to live on and farm: thus, as Rostovtzeff points out, Ptolemy also saved on money payments to his soldiers.<sup>30</sup>

Despite remedial activities, Ptolemy's lack of ready currency was a serious weakness; his rival Antigonus was prepared to take full advantage of it. With this in mind, it is easier to understand the maneuvers of the two satraps in the years between the battles of Gaza and Salamis (312–306). There are some signs that Ptolemy was already suffering from a shortage of currency in these years: the light-weight drachms and hemidrachms of series C were issued between 312 and 306. In 311 Ptolemy lost his revenues from Syria and Phoenicia; in the same year he made an expedition against Cilicia, its object possibly being the rich Cilician silver mines, or Antigonus'

<sup>27</sup> *Cambridge Ancient History* VI (Cambridge, 1927) p. 421.

<sup>28</sup> M. Cary, *A History of the Greek World from 323 to 146 B.C.* (London, 1932), p. 21, asserts that Ptolemy "possessed from the outset an ample fund of money," and that only his conservative temperament prevented him from expanding his kingdom farther into the Aegean area.

<sup>29</sup> Rostovtzeff, *SEHWW*, p. 382 ff.

<sup>30</sup> *Ibid.*, p. 287.



private treasury at Cyinda. Following this attempt, which was unsuccessful, Ptolemy invaded Lycia, another silver-producing province. Antigonos meanwhile pursued an obstructive policy: he forbade the cities of Asia Minor to buy grain from anyone but himself, doubtless hoping to curtail Ptolemy's foreign market.<sup>31</sup>

In the battle of Salamis, Antigonos almost completely destroyed Ptolemy's fleet and caused him to withdraw from all territory outside Egypt. After this débâcle the latter's revenues must have been at their lowest ebb. Yet when Antigonos tried to follow up his naval victory by an invasion of Egypt, Ptolemy persuaded many of his mercenaries to desert by offering them the considerable sums of a talent apiece to the officers, two minae apiece to the common soldiers.<sup>32</sup> Again in 305 he gave one of those displays of munificence which have dazzled the commentators, all but supporting Rhodes through a thirteen-month siege by Demetrius. This was not a gratuitous act: Rhodes was, as Rostovtzeff has convincingly shown, the great connecting link and emporium for Egypt's Aegean trade.<sup>33</sup> Diodorus explains the situation preceding the siege: "The Rhodians thus in amity with all the princes, kept themselves (with all the art they could) from giving any just offence by outward appearance; though in their hearts they most favored Ptolemy: for they were most enriched by the merchants that traded thence into Egypt, and the whole city was maintained and supported by the wealth of that kingdom; which being understood by Antigonos, he did all he could to draw them off from siding with Ptolemy."<sup>34</sup> Thus at least part of the object of the siege was to deprive Ptolemy of his last source of revenue — perhaps of his last source of pay for his mercenary troops. Viewed in this light, Demetrius' expensive and exhausting attempt would have been well worth the effort, if successful.<sup>35</sup> That it was not was largely due to Ptolemy's generous supplies of aid to Rhodes.

<sup>31</sup> *CAH*, VI, p. 491.

<sup>32</sup> Dio. Sic., XX, 75.

<sup>33</sup> Rostovtzeff, *SEHWW*, p. 226 ff.

<sup>34</sup> Dio. Sic., XX, 81.

<sup>35</sup> Viewed in any other light, it was senseless; so it appeared to Tarn, in *CAH*, VI, p. 499: "Why Demetrius wasted an invaluable year over the siege of Rhodes is incomprehensible; for, even if the Rhodians did carry ship-timber to Egypt, the loss of Cyprus had deprived Ptolemy of his last reserve of good seamen, a far more important matter." The question is not one of ship-timber but of currency.

Evidently, Ptolemy must have felt a financial strain at this time: the expenses of repelling Antigonus' invasion, and of supporting Rhodes through a thirteen-month siege, came at the very moment when his revenues were least. Eloquent proof of this strain is the issue of the low-weight series D tetradrachm. The method of overstriking indicates that it was done hastily; the fact that the type was unchanged, that it was at least intended to be done unobtrusively. The ratio of silver to gold did not fall during the temporary scarcity, but even rose slightly; yet the government was saving silver, coining nine tetradrachms from the amount of it that had previously supplied eight. It is true that if Ptolemy had been using his silver extensively in foreign trade, he would have made no saving: for, however the Egyptian weight standard were changed, the same foreign prices had to be met. But since the balance of trade was favorable, most of the currency stayed in Egypt. Ptolemy did, in fact, cut off Egypt's coinage from the Hellenistic world by leaving the Attic standard: after this time there is almost no Ptolemaic coinage found in hoards outside Egypt.

Some scholars, while recognizing that the lowering of gold and silver weights in Egypt was dictated by a purely internal economic necessity, have offered unlikely theories as to the actual monetary adjustment involved. Theodore Reinach conjectured that six of these low-weight tetradrachms, instead of five, were made equivalent to a gold stater.<sup>36</sup> This would have led to a strange fluctuation in the Egyptian ratios of gold to silver, as he himself calculates them:

$$332-304: \mathcal{A} : \mathcal{A}' = 10 : 1$$

$$304: \mathcal{A} : \mathcal{A}' = 13 : 1 \text{ (series D)}$$

$$\text{c.295: } \mathcal{A} : \mathcal{A}' = 12 : 1$$

$$\text{c.270: } \mathcal{A} : \mathcal{A}' = 12.5 : 1$$

Had five tetradrachms been exchangeable for the gold stater in 304, Reinach objects, the ratio would have been 10.83 : 1. This ratio obviously fits in far better with the others, but Reinach rejects it for the reason that .83 is a difficult fraction. The reason is not valid: it should be remembered that all modern calculations of ratios are based

<sup>36</sup> Th. Reinach, "Du rapport de valeur des métaux monétaires dans l'Égypte au temps des Ptolémées," *Revue des Études Grecques*, XLI (1928), p. 132.

only on an approximate knowledge of the ideal weight of the coins in question, and even of the ancient weight-systems. Reinach's figure 10.83 cannot be accepted as exact in terms of the Egyptian weight-system.<sup>37</sup>

E. S. G. Robinson has more recently advanced a similar theory, supposing that six of the low-weight tetradrachms were made exchangeable for a gold stater.<sup>38</sup> This type of reform seems, for common sense reasons, very improbable. It must be remembered that this particular change was made in a time of crisis, when such an obvious change as that suggested by Reinach and Robinson might have resulted in popular confusion, or even panic. As B. V. Head observed in another connection: "The conservative East, which could brook no change in the number of silver coins exchangeable for a gold piece, would not however be startled by a modification in the weights of the denominations;"<sup>39</sup> especially, it may be added, by a modification as unobtrusively effected as this one. Here, in fact, is the most important argument against Reinach and Robinson: that there was no type change accompanying the weight change in series D silver. Surely the government, if it had wished to make six tetradrachms equivalent to a gold piece where five had been before, would have avoided public confusion by changing the coin type. As it is, tetradrachms of series C and D are identical in appearance: the only certain way to distinguish them is by weighing them.

The difficulties of enforcing such a change — i.e., of recalling all the silver tetradrachms in circulation — may be adduced as an objection to this theory. But one must remember that the government of Egypt had a complete and autocratic power over its subjects; and fortunately we have evidence, though from the time of Ptolemy II, that it was used to effect arbitrary currency adjustments of the sort described here. In Cair. Pap. Zen. 59021<sup>40</sup> a certain Demetrius, surmised to be the head of the Alexandrian mint, complains to Ptolemy

<sup>37</sup> But subsequently Heichelheim, *Wirtschaftliche Schwankungen der Zeit von Alexander bis Augustus* (Jena, 1930), p. 12, accepted both ratios (10.83:1, 13:1) as equally possible for ca. 306 B.C.

<sup>38</sup> E. S. G. Robinson, "The Coin Standards of Ptolemy I," in *SEHWW*, p. 1635.

<sup>39</sup> B. V. Head, *HN*<sup>2</sup>, p. 224.

<sup>40</sup> Published in C. C. Edgar, *Zenon Papyri*, vol. I. in *Cat. of Egyptian Antiquities*, Cairo Museum (Cairo, 1925), p. 40.

II's head financial minister that he is having difficulty in getting the merchants and traders to turn in their local currency and their trichrysa (a gold denomination officially superseded some dozen years before; the letter is dated 258/7) to be restruck and given back "according to the decree." The exact scope and purpose of this decree is not clear, though it has received much critical attention:<sup>41</sup> it is surely not dealing with an emergency like that of 305. Nevertheless, the document offers evidence that the Ptolemaic government did use the method of recall and restriking suggested in this study.

BROOKS EMMONS

#### COMMENTARY ON PLATES XII-XIII

In some of these coins, traces of the undertype appear on both obverse and reverse; in others, on one side only.

1. *Rev.*: Profile of Alexander or Heracles, facing upwards.
2. *Rev.*: Profile of Heracles, behind it petal-like effect formed by flattening of lion's mane when overstruck.  
*Obv.*: Above horn of Ammon of new type, leg of Zeus' throne from earlier reverse type, with traces of monogram below: ..Y (Earlier coin was tetradrachm of Alexander or of series A).
3. *Rev.*: Indistinct marks of undertype.  
*Obv.*: On cheek of Alexander, traces of Zeus' throne, with beaded line of his staff behind it.

<sup>41</sup> Segré, in *Rivista Italiana di Numismatica*, III, 2nd series (1920), p. 45, suggested that the decree referred to the withdrawing of the trichryson in 271/0 in favor of a lighter gold coin, the mnaeion. He explained that in this change there was an attempt by the government to realize a slight gain, by forcing citizens and banks to turn in their trichrysa in equal exchange for mnaeia. "This gain, which gave the king a profit of about 8.55% on the gold circulating in Egypt before the reform, apparently was not brought about with the desired speed, because private citizens preferred to hold on to the old money which still circulated" at the time of Demetrius' letter.

Unfortunately for Segré's theory, so far as it depends on the letter, Schubart subsequently showed by an analysis of the letter's contents (in *Z.f.N.*, XXXIII, 1922, p. 74), that the decree referred to probably has nothing to do with that of 271/0, and deals with a different type of modification: an attempt to standardize all the coinage circulating in Ptolemy's dominions by striking it with the current Ptolemaic types.

4. *Rev.*: Between the legend ΑΛΕΞΑΝΔΡΟΝ and Athena's raised right arm, the profile of seated Zeus' head and shoulders.  
*Obv.*: Profile of Alexander or Heracles.
5. *Rev.*: Traces of lips and nose, from obverse of previous type, under the eagle. To the left of Athena, the petal-like effect of the flattened lion's mane.  
(Earlier coin, as in No. 2, was tetradrachm of Alexander or of series A).
6. *Rev.*: Profile of Heracles, lion's mane.  
(Earlier coin, as in Nos. 2 and 5).
7. *Rev.*: Profile of Alexander, with lips below the eagle's tail of the new type, eye behind the eagle's head; above Athena's shield, the crinkled top of the earlier elephant-skin headdress.  
(Earlier coin was tetradrachm of series C).

## COUNTERMARKED AND OVERSTRUCK GREEK COINS AT THE AMERICAN NUMISMATIC SOCIETY

(SEE PLATE XIV)

In order to draw attention to an important form of numismatic evidence, the following rare or unusual countermarks on coins in the possession of The American Numismatic Society are described and illustrated. Additions to their number and a systematizing of the facts concerning them may permit the identification of their sources and of the causes which produced them. Any study of countermarks will of necessity make use of a basic article by the French numismatist, Robert Mowat. This article was one of the outstanding contributions to the impressive volume of essays published in honor of Barclay V. Head in 1906.<sup>1</sup> Though this article was limited in scope to the countermarked tetradrachms and drachms of Side, the author, in fact, had devoted much time to the study of the entire field of Greek countermarked coins. Upon his death the numismatic collection which he had amassed passed into the possession of the Bibliothèque Nationale. Mowat showed that the cities which used the cistophoric type on their own coinage also made use of a countermark which was uniform in size and type, showing a bow within its case, on the coins of Side. These countermarks differed only in that they bear the initial letters of the names of the cities involved. The other countermarks listed by him seem also to have been superimposed by towns or cities of Asia Minor.

It is not to be assumed, however, that these countermarks were placed only on the coins of Side. Such a conjecture is clearly refuted by reference to a New Style tetradrachm of Athens published by Professor Bellinger.<sup>2</sup> This piece bears the stamp of Tralles. Similar

<sup>1</sup> *Corolla Numismatica. Numismatic Essays in Honour of Barclay V. Head*, pp. 189–207.

<sup>2</sup> A. R. Bellinger, "The Chronology of the Attic New Style Tetradrachms," *Commemorative Studies in Honor of Theodore Leslie Shear*, Pl. 3, No. 5.

countermarks of other cistophoric cities are found on late, posthumous tetradrachms of Alexander. The American Numismatic Society possesses four pieces which bear such countermarks.

Sardes over an Aspendus Alexander for year 11.

Pergamum over an Aspendus Alexander for year 5.

Pergamum over a Phaselis Alexander for year 22.

Adramyteum over an Uncertain Pamphilian Mint Alexander for year 16.

The Cyzicus counterstamp (wreath enclosing initial letters) which occurs on the Side tetradrachms is also found on one of our Aspendus Alexanders for the year 22.

Among the circular countermarks not listed by Mowat is one found on the Alexander-type tetradrachms of Alabanda. A careful search did not disclose this countermark on the issue of any other city,<sup>3</sup> so that it would seem as though its application was limited to Alabanda. Its type is a turreted head facing to right; the die shows also a broken form as well as a modification which may be due to repair. Nearly half of the Alabanda Alexander tetradrachms known to me are so marked.

Until recently it seemed safe to say that this was the only countermark occurring on the Alexander-type coins of Alabanda, but two specimens have been acquired which bear another impress which is also circular. This type (PLATE XIV, 8) consists of a cluster of grapes on either side of which there is a tiny branch or tendril. It may be conjectured that these countermarks were struck in Soli, or somewhat less probably in Temnus, a nearby city which also struck tetradrachms with the type of Alexander, but there is little evidence beyond that of a common type to confirm this supposition. Strangely enough, this countermark also occurs superimposed on a tetradrachm of Cyme<sup>4</sup> as well as on a drachm of Myrina.<sup>5</sup> Presumably there are still other occurrences which are not known to me.

The third of the circular countermarks occurs on a tetradrachm

<sup>3</sup> An exception (?) in the countermark on a tetradrachm of Cyme at Copenhagen (*Sylloge*, 104). This countermark is described as an Artemis head in the *Sylloge*.

<sup>4</sup> *Pozzi Coll.*, 2300.

<sup>5</sup> *BMC, Aeolis*, p. 136.

of Athens of the mid-fourth century. It is an unusual type showing a crested (?) head with beady eyes facing front (PLATE XIV, 7). Acquired with it were two similar tetradrachms of Athens which were counter-marked with the h-like stamp which is also to be seen on the reverse of the extraordinary satrapal portrait piece published by Robinson.<sup>6</sup> This h-countermark was applied to the official Athenian issues as well as to the Syrian or Egyptian imitations of them. Both of the h-stamped specimens acquired by The American Numismatic Society are on the imitations — the facing head is applied to an "official" issue. The use of a facing head for a countermark is almost as bold a procedure as it would be if it were used as a Greek coin type because of the difficulties involved in modelling the head as well as because of the stresses to which either the die or the punch would be subjected. The impression on our coin is imperfect because it is placed just over the lips of Athena so that one of its eyes is eliminated. It is made the more unusual by what appears to be a crest, although any other suggestion of a helmet is lacking owing to the smallness of the scale for the whole. This is reminiscent of a 'banker's signet' which appears on a half-stater of Croesus although it is somewhat smaller in scale. There is the possibility of a connection between the two cases despite the interval of time which separates them. If, as I believe to be the case, these three Athenian tetradrachms were derived from the same hoard as the coin bearing the portrait of Tissaphernes, the site of the hoard was not far removed from the find-spot of the half-stater of Croesus.

In the article by Mowat to which reference has already been made, a rather pretentious countermark (6 by 13 mm.) is listed, and its type, a galley, familiar as the emblem of Phaselis, indicates that it should be assigned to that city. Any scepticism as to this is dispelled, not only by the letter Φ which occurs to the left of the galley on the stamp, but by the three circular 'shields' which are familiar elements of the Phaselis coin-type. The three countermarks whose descriptions follow seem to adhere to some convention as to size and form, just as those of the cistophoric cities do, and this suggests that their sources are limited to Asia Minor, and that they may not have been far removed from Phaselis.

<sup>6</sup> E. S. G. Robinson, "Greek Coins Acquired by the British Museum 1938–1948, I," *Numismatic Chronicle*, 6th Series, VIII (1948), p. 48, and Plate V, No. 8.



The first of these (PLATE XII, 9) is applied to an Alexander-type tetradrachm which, owing to the cithæra which it bears as a symbol, has been assigned to Colophon. This countermark is 5 by 12 mm. and has for its type a filleted thyrsus. An examination of the plate will show, however, that this is different from the customary representation of the thyrsus in the placing of the fillets and the shortness of the handle. It may be that what has been taken for fillets are part of a frame. If the handle were not so uncompromisingly straight, the 'thyrsus' might be thought a bud. Occurrences of the thyrsus as a symbol are known, but none resembling this have been found. The weight of this coin is 16.28.

The second countermark (PLATE XIV, 10) is also to be found on an Alexander-type tetradrachm from one of the Pamphilian mints—Aspendus, Phaselis or a hitherto unlocalized mint. It has not as yet been possible to find another specimen from the same obverse die, and it may be an 'imitation'—others of these are known. The countermark takes the form of an *aplustre* or *aphlaston* and is 8 by 12 mm.; it is accompanied by a second countermark, the Seleucid anchor. What may be a letter is discernible at the upper right, and this implies that there may have been another at the left. I am indebted to Miss Margaret Thompson for the reminder that the *aphlaston* occurs as a type on contemporaneous bronze coins of Aradus and the Seleucid countermark supports this possibility. On the other hand, it does not support the previously made suggestion that there may have been something like an inter-city convention to use countermarks of the same size and general form.

The third countermark (PLATE XIV, 11) also on a tetradrachm with Alexander's types came into the possession of The American Numismatic Society as a recent gift of Dr. H. A. Cahn. It, too, is applied to the issue of one of the three Pamphilian cities already mentioned (or an imitation). This countermark, 6 by 12 mm. in size, displays a tripod, a type which might belong to any of the many cities in which Apollo was honored. Since the tripod was used on the fractional issues of Cnidus at about this time, it seems most probable that that city is referred to by this countermark.

The listing of these countermarks will have accomplished its purpose if it elicits further information regarding them or additions

to their number. Their extreme rarity can hardly be fortuitous. Properly recorded hoards from Asia Minor are few, and if the coins bearing the impress of these countermarks were thought of as having suffered mutilation, the finders would have consigned those pieces to the melting pot. Two of these three pieces, as both weights and reproductions show, are badly worn; in addition they have a leaden color which gives rise to the suspicion that their silver may be below standard. The marking may then been an indication of their official acceptability by the authority (municipality) whose badge they bore. Whether this would have given them an 'honorable' status in circulation is open to question, but it is at least a plausible presumption.

Ordinarily, overstruck Greek coins are regarded as having the same weight standard for both the upper- and under-strikings. In a very important article, Dr. C. H. V. Sutherland presented the results of his study of overstrikes and expressed this principle: "Coins struck originally by one city," he wrote, "are not normally overstruck by a second city unless (by reason of their conforming to the coin-standard in that second city) they are themselves current in that second city."<sup>7</sup> Only one exception to this rule was cited, and since it was the only one known to him, he concluded the violations of this rule "must be very rare indeed." The exception to the rule was an Athenian tetradrachm whose weight had been re-adjusted to that of a Samian tetradrachm before restriking. The weight of the coin had been reduced from about 270 to 202.2 grains.<sup>8</sup>

A second instance of a similar reduction in weight before restriking has been cited by Dr. J. G. Milne.<sup>9</sup> In this instance the original weight of the Athenian tetradrachm (17.496) was reduced to 10.88 grams. This reduction in weight was so drastic that Dr. Milne pointed out that "this specimen shows clear marks of having been hacked all round to such an extent that the olive-spray on the field of the Athenian reverse stands right on the edge of the Cypriote coin." He also describes two other Cypriote coins at Oxford of Azbaal, King of

<sup>7</sup> C. H. V. Sutherland, "Overstrikes and Hoards: The Movement of Greek Coinage down to 400 B.C.," *Numismatic Chronicle*, 6th Series, II (1942), pp. 1-18.

<sup>8</sup> *BMC, Ionia*, p. 358, 87.

<sup>9</sup> J. G. Milne, "Overstruck Cypriote Staters," *Numismatic Chronicle*, 6th Series, V (1945), p. 79.

Citium, one of which is 'certainly' and the other 'probably' struck on a stater of Aegina.

To the staters described by Dr. Milne it is now possible to add two further specimens in the cabinet of The American Numismatic Society. (PLATE XIV, 1: obv. and rev.; 2: rev. only). The illustration shows that the under type of the first is clearly that of Aegina—the sea turtle. It looks as though the shell had been planed or chiseled away, with a consequent decrease in the weight of the coin from the norm of Aegina (12.58) to 10.85, the present weight of the piece.

The second coin, like the first, is an issue of Azbaal, but on this piece it is possible to see that the under type is not the sea turtle but rather the land tortoise, which was issued later (PLATE XII, 3). The square plates of the shell of the tortoise can be discerned at the upper right. This coin weighs 10.91, but there is no apparent indication of the manner in which the weight was reduced.

My purpose in this note, however, is to call attention to a remarkable overstrike for which, instead of a reduction in the weight of the piece, there is an actual increase in the weight of the overstrike as compared with the under type. While in Athens during the winter of 1952, I re-studied the hoard found at Myron Karditsa, Thessaly, in 1914. This hoard had been published by Svoronos.<sup>10</sup> My attention was arrested by an overstruck piece, No. 173 of the catalogue, which disclosed that this coin had puzzled two of the greatest numismatic scholars of the last generation, Svoronos and Imhoof-Blumer. Since it is hardly likely that this publication is available to most readers in America, I have included in a footnote the response given by Imhoof-Blumer to a request by Svoronos for his opinion.<sup>11</sup>

<sup>10</sup> J. N. Svoronos, "Thesaurus nomismaton ek tou choriou Myron Karditses tes Thessalias," *Archaiologikon Deltion*, II (1916), pp. 278–305.

<sup>11</sup> Svoronos after recording his belief that the under type was that of Pharsalus, quoted in a note the reply sent to him after he had submitted a cast of this piece to Imhoof-Blumer.

"Vous me soumettez les empreintes d'un didrachme béotien surfrappé pour me demander mon opinion sur le provenance de la monnaie primitive. Parmi les didrachmes du IV<sup>e</sup> siècle et antérieur à celui-ci, je ne pas pu découvrir de pièce à la tête d'Athéna qui corresponde au profil avec celle de votre pièce. Votre idée de Pharsalos me paraît, comme conjecture, acceptable. Comme plusieurs villes thessaliennes ont frappé des didrachmes à la dite époque, toujours très rares, il est bien permis de supposer que de Pharsale il en existait aussi. Je regrette de devoir rester aussi à l'incertitude."

To supplement the illustration of the coin (PLATE XIV, 4) there should be a brief description of it. On the obverse, a Boeotian shield; on the reverse, an amphora with Θ in the left field and Ε to the right, the whole in a square incuse. Certain features of the under-type are also revealed. A profile shows to the right, and the crest of a helmet is to be discerned in the left field with hair-tresses at the lower left.

Svoronos thought that he could recognize the under type as that of Pharsalus (PLATE XIV, 5). As can be seen from the Swiss scholar's reply, which has been quoted in the last footnote, he politely declines to accept this suggestion, and, though he does not explicitly say so, the difference in weight between the issues of Pharsalus and this overstruck piece may have influenced him strongly in this. The largest coins of Pharsalus known to us are drachms whereas the staters of Thebes are Aeginetic didrachms (12.57 grams), and the weight of the piece under discussion is 10.57 grams.

Upon examining the coin in strong sunlight I was struck by the fact that although the head was quite clearly visible on the reverse, no trace of the under type was to be seen on the obverse. Further, the reverse was well preserved and had an excellent surface, a condition which was not true of the other side where the metal was duller and seemed spongy. Through force of habit, I turned the coin to look at its edge. In the sunlight, a continuous line extending around the entire circumference of the coin could be seen and the difference in color between the two sides was emphasized. The only conclusion that I could draw was that a plate or lamina of silver had been added to the original coin in order to raise its weight.

It must be remembered that Imhoof-Blumer formed his opinion from a cast; he did not see the actual coin. With the difficulty about the weight eliminated, the objection to recognizing the under type as that of Pharsalus, as proposed by Svoronos, was removed. That this is the correct identification becomes more certain when it is seen that the tiny letters TH below the crest of the helmet and behind the neck of Athena are visible even on a cast.

I am unaware of a similar occurrence in the field of Greek coinage. If there are others, they have probably escaped notice for the same reason as that which explains the scarcity of overstrikes. Most col-

lectors consider such overstrikes mutilations and prefer pieces in fine condition. The occurrence of this piece in a hoard precludes any suggestion of counterfeiting or mystification. Possibly the coalescence of the two pieces of metal was brought about merely by hammering. I believe that a spectroscopic examination would disclose sufficient difference in the metal of the two sides to confirm the explanation offered here, but no spectroscope was available in Athens. I may add that this explanation received the full concurrence of Mme. Varoucha-Christodouloupoulos, the Curator of the National Numismatic Museum at Athens, by whose kind permission I am recording this observation, as well as that of Dr. Herbert A. Cahn who also examined the piece at my request.

It seems, therefore, that comparison of the weight of overstruck coins with those of their under types is a very necessary element in their study. Other examples of Boeotian staters struck over other types have been seen recently, but without recognition of their original source. It may well be that there is evidence to show that such a procedure had greater frequency than I have assumed. Speculation as to the reason for the occurrence of the phenomenon based upon a single example would seem undesirable.

A strangely mutilated piece is also shown with the other overstrikes discussed in this article (PLATE XIV, 6). In this case there is but slight change from the original weight. The coin itself is an early octodrachm of Abdera—the griffin with the plain wing, and the letters  $\text{IA}$ , together with the theta-shaped symbol described by Strack (his No. 6) from a specimen in the collection of the Boston Museum of Fine Arts (formerly Greenwell), make this clear.<sup>12</sup> The flan has been hammered at the perimeter until a raised rim extends through its entire circumference, thereby greatly reducing its width and doubling its thickness. The weight is 26.59 grams while that of the piece listed by Strack is 29.54. I have no explanation for the treatment to which this piece has been subjected.

The use of overstrikes, however, is not limited to the pre-Alexander period. Overstrikes in the Hellenistic period are no less interesting than earlier ones. In Crete they seem to have persisted long after

<sup>12</sup> *Die antiken Münzen Nord-Griechenlands*, II; M. L. Strack, *Die antiken Münzen von Thrakien*, p. 44, Pl. I, 2.

countermarks had been substituted for the same purpose elsewhere. It has long been known that the later tetradrachms of Cnossus with the square labyrinth as the reverse type sometimes were struck on Seleucid tetradrachms.<sup>13</sup> On one specimen in the cabinet of The American Numismatic Society, the under type is recognizable as that of Antiochus IX. Another piece, recently seen in Venice shows the outlines of a profile with a 'Roman' nose, which along with other confirming details permits recognition of an issue of Antiochus VIII (Grypus). A third one of these overstrikes, recently acquired by The American Numismatic Society, has a reverse which shows clearly the inscription ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ. Since the obverse provided traces of the hair treatment and precluded any thought of its being the lion's scalp of the type used by Alexander the Great and his successors, a check with the portrait on the coinage of Alexander II disclosed that the under type was his. These three overstrikes indicate a fairly considerable influx of Seleucid tetradrachms into Crete, the reason for which would be somewhat clearer if we had a better knowledge of the history of the island in this period.

SYDNEY P. NOE

<sup>13</sup> J. N. Svoronos, *Numismatique de la Crète ancienne*, p. 77, no. 97 and p. 78, no. 99.



*THEA NEOTERA*  
ON COINS OF ANTONY AND CLEOPATRA<sup>1</sup>

(SEE PLATE XV, 1-2)

Among the coins of Antony and Cleopatra is found an important piece which has been the subject of some discussion as to both date and mint, but of very little investigation in any other respect. The coin is struck in base silver.

- 1.<sup>2</sup> Bust of Antony, facing r., border of dots. Around, ΑΝΤΩΝΙΟC ΑΥΤΟΚΡΑΤΩΡ ΤΡΙΤΟΝ ΤΡΙΩΝ ΑΝΔΡΩΝ
2. Bust of Cleopatra, facing r., wearing a diadem, pearl necklace, dress embroidered with pearls, border of dots. Around, ΒΑΣΙΛΙCΚΑ ΚΛΕΟΠΑΤΡΑ ΘΕΑ ΝΕΩΤΕΡΑ. PLATE XV, 1.

Svoronos lists forty-five copies of the coin.<sup>3</sup> The number indicates a large original issue, which was confirmed by examination of ten pieces in photograph, which revealed not a single die link. Most of the pieces seen were considerably worn, indicating that they were not intended to be a cabinet issue, for private retention. Svoronos gives the weights of twenty-six pieces: they range from 12.75 to 15.61 grammes, averaging 14.59 grammes. The weight clearly corresponds to the light tetradrachm of the Phoenician standard.

The coin has generally been attributed to Antioch on the Orontes, but seldom with conviction. Svoronos admits that the tetradrachm is usually found in Syria, and to this end emends Servius' famous "in

<sup>1</sup> This paper is a condensation of one chapter of a doctoral thesis submitted to Princeton University in 1953. It should be noted that two chronological points, assumed here without discussion, are there treated at considerable length: the datings of Antony's third imperatorship to 36 B.C., and of the coinage of the "fleet praefects" to 35.

<sup>2</sup> It is not clear which face of the coin can be called the obverse.

<sup>3</sup> Τα Νομίσματα τοῦ Κράτους τῶν Πτολεμαίων (Athens, 1904), nos. 1897-8 and p. υπγ'-δ.



Anagnia" (*In Aen.*, vi, 684) to "in Antiochia." Wroth,<sup>4</sup> Imhoof-Bloomer, and von Sallet<sup>5</sup> were unsure; Grant does not commit himself at all.<sup>6</sup> Graindor has recently attempted to attribute the piece to Alexandria, on the basis of style and because the legend is Greek, but his opinion cannot seriously be upheld.<sup>7</sup>

The reason for the original attribution to Antioch, I take to be our knowledge from the literary sources that Antony and Cleopatra spent the winter of 37/6 there together. Thus may be explained their joint portraiture, while a fairly exact dating is attained for the tetradrachm. It is, then, clear that this attribution has stemmed not from an interpretation of the coin itself, but from the desire simply to fit the piece to the literary evidence. The danger of this technique will become obvious in the course of this paper.

\* \* \*

For the moment there can be no accurate dating of the "Antioch" tetradrachm. The style tells us nothing in this respect, but the legends can be of some assistance. Antony's title, "*Imperator* for the third time," stems from the Parthian campaign of 36, and, if Plutarch (*Ant.* xliii, 1) is correct, particularly from the victory over the Parthians during the retreat to the Araxes around October 10. But Velleius (ii, 82.3) and Florus (ii, 20.10) both state that "the flight itself" to the Araxes and then to the Syrian coast, was called a victory; the suggestion is unhappy, but the implication is that the victory, and thus the assumption of the third imperatorship, did not become known until Antony's arrival at the coast. Certainly it seems unlikely that the report of one victory would have been relayed on to Syria. Antony's position was difficult enough without such frivolities; Plutarch notes that in the march from Phraaspa to the Araxes the Roman forces defeated the Parthians in eighteen engagements within twenty-seven days.

<sup>4</sup> *BMC, Galatia*, p. 158, n. 1.

<sup>5</sup> In Svoronos, p. 316

<sup>6</sup> *From Imperium to Auctoritas* (Cambridge, 1946), p. 369.

<sup>7</sup> "Bustes et statue-portraits d'Égypte romaine," in *Recueil de Travaux Publiés par la Faculté des Lettres*, (Cairo, 1939); p. 40, n. 165.

Antony's arrival at the Syrian coast can only be approximated; calculating from the information rendered by Dio and Plutarch, I take it to fall no earlier than December 1 of 36. The "Antioch" tetradrachm can only have been struck after that time. Dio (xlix, 31.4) remarks that after Antony reached the coast, money came to him from Cleopatra; but certainly the "Antioch" tetradrachm was not the money sent. Her aid arrived before the end of the year, and there could not have been time for the news to reach Alexandria, the dies to be cut, the coin to be struck, and the issue shipped back to Phoenicia or Syria before the inception of 35. In corroboration, their style is utterly unlike anything attributed to Egypt — as it is utterly unlike anything at all. Further, the fact that the bronze coinage of the fleet praefects is dated to 35 suggests that the "Antioch" coin was not struck so early. For if in 35 the fiction was deliberately proffered that Octavia and Antony were still on the best of terms, one can hardly accept that the lie would simultaneously be undone by the portrayal of Cleopatra on another issue of Antony's coin.

A *terminus ante quem* of importance cannot be determined from any aspect of the coin as we have it. But fortunately M. Allotte de la Fuÿe has published the very happy discovery of a dated Parthian tetradrachm which is overstruck on the "Antioch" piece.<sup>8</sup> There is no doubt as to the identity of the original coin: ΘΕΑΝΕΩΤΕ is still to be read on one side, on the other, ΤΟΚΡΑΤΩΡ. Nor is the date of the overstrike in question. The new coin is of the reign of Phraates IV, struck in the year 279 Sel. and the month Hyperberetaeus, that is, the autumn of 33 B. C. Certainly the original issue of the "Antioch" tetradrachm took place at some time preceding the overstrike, but I question whether we should assume, with M. de la Fuÿe, a gap of at least eight months to allow for the circulation of the coin in commerce into Parthia. In any case it is impossible to date the issue of the "Antioch" coin any earlier than early in the year 33. In the face of the portrayal of Octavia on Antony's bronze as late as 35, the year 34 seems the most likely solution for the date of the tetradrachm. It thus coincides with the "triumph" at Alexandria, the first public avowal of Antony's definitive change in affections from West to East, as well

<sup>8</sup> "Monnaies Arsacides Surfrappées," *Revue Numismatique*, Ser. 4, VIII (1904), 174–96.

as from Octavia to Cleopatra. The tetradrachm, in my opinion, commemorates this open liason of Antony and Cleopatra. Their meeting at Antioch in 37 B.C. cannot explain the coin.

\* \* \*

Inasmuch as the tetradrachm bears no mint initial, and resembles in type and style no other issue of this period,<sup>9</sup> its mint provenance is a question of some difficulty. One clue is afforded in the title of Cleopatra, "Thea Neotera," which itself is of no little interest aside from what it may add to the problem of the mint.

"Thea Neotera" as a title of Cleopatra occurs on three issues of her coinage: a bronze attributed to Berytus,<sup>10</sup> a bronze attributed to Cyrene (see PLATE XV, 2),<sup>11</sup> and the "Antioch" tetradrachm. She is somehow officially named "the new Goddess," or "the newer Goddess," or, oddly enough, "the goddess Newer." There are three literary references to which one is immediately drawn in the examination of this title. First, Plutarch speaks of her deification in describing the second donations at Alexandria in 34. Antony's sons are proclaimed "Kings of Kings," and each is allotted a portion of Asia for his domain. Cleopatra is reaffirmed as Queen of Egypt, Cyprus, Libya and Coele-Syria. And, he concludes, (*Ant.* liv, 6) "Cleopatra at that time καὶ τὸν ἄλλον χρόνον going out to the crowd, took up the holy robe of Isis and called herself 'New Isis.'" Dio (1, 5.3) relates that she was represented as Isis in art; and his version of Octavian's address to his troops before Actium includes the charge that Antony paid homage to her "as if she were some Isis or Selene." (1, 25.3)

That Cleopatra was deified as Isis is no cause for concern; the curious element here is that Plutarch's account does not fit the other evidence. Excluding for the moment those coins bearing the title "Thea Neotera," the connection of Cleopatra with Isis is shown on two pieces. In each case the solar headdress of the goddess is employed

<sup>9</sup> Lederer, in "Two Unpublished Greek Coins," *Numismatic Chronicle*, Ser. 5, XVIII (1938), p. 69, saw "a very marked agreement in style" with the head of Antony on the drachms struck at Antioch. I am not convinced that the similarities, to me not "marked," indicate a common mint for the two coins.

<sup>10</sup> Svoronos, *op. cit.*, nos. 1899-1900.

<sup>11</sup> Svoronos, *op. cit.*, nos. 1887-9. *BMC, Phoenicia*, p. 53-4.

as a sort of sub-type. The one coin is a bronze, undated, attributed to Patrae in Achaëa.<sup>12</sup> More important is a silver drachm, struck at Alexandria, bearing, as the other piece, the head and titles of Cleopatra.<sup>13</sup> But the drachm is dated to the year  $\varsigma$  of Cleopatra's reign, i. e., 47/6 B.C.—thirteen years before she is said by Plutarch to have assumed the title "New Isis."

It is of course possible that Plutarch did not mean to imply that Cleopatra assumed the divine title for the first time on the occasion of the festival at Alexandria. His phraseology is obscure; I take "καὶ τὸν ἄλλον χρόνον" to mean either "and at other times," or "and thereafter," and I am at a loss to divine which is correct. At any rate, the Alexandrian drachm proves that the first connection of Cleopatra with Isis occurred considerably before 34. Dio is of no help in this matter, for the mention of Isis in Octavian's speech is in no chronological context, while the information that she was painted as Isis in 32 B.C. does no more than set a final *terminus* much too late for our purposes.

Cleopatra, then, is called "Isis" or "New Isis" at some time during her reign, certainly by the year 34, probably as early as 46. Yet no mention of her as "Thea Neotera" occurs until 36 at the earliest, on the "Antioch" tetradrachm. It would behoove us then to investigate the sources of the two titles and to assure ourselves of their equation. In this connection, it should be noted that her title "New Isis" is exclusively literary, while "Thea Neotera" is exclusively numismatic. Further, the latter title is absolutely unexampled elsewhere in its application to a human. We know it to be true that earlier Ptolemaic queens had assumed divinity, even as their husbands. There is no reason to doubt Cleopatra's divinity; the connection of the two titles is the problem at hand.

First, the usages of *neotera*. The references to the word in cult inscriptions and papyri — it is unknown elsewhere on coins — are exceedingly few. An inscription from Eleusis of the second century A.D. commemorates a certain Claudia Philoxena, who had benefitted a temple, "silvering the altar of the *neotera theos*."<sup>14</sup> Boeckh equates the

<sup>12</sup> Svoronos, *op. cit.*, no. 1905. *BMC, Peloponnesus*, p. 23.

<sup>13</sup> Svoronos, *op. cit.*, no. 1853. *BMC, Ptolemies*, p. 122.

<sup>14</sup> *CIG, I*, 435.

*neotera theos* with Demeter and states that the inscription must refer to the worship of Sabina, wife of Hadrian, who was known as "New Demeter". The inscription itself is not dated, and the text is of no assistance, but the epigraphers attribute it to the reign of Hadrian, from which stems the identification of Sabina. But more important is Boeckh's equation *Neotera* = Demeter. Further investigation proves that he cannot be correct. A much older inscription from Eleusis sets us right.<sup>15</sup> The stone is taken up with temple accounts; among the figures we find, "from the treasuries of the two goddesses at Eleusis...: from that of the elder (τῆς πρεσβυτέρας) two Philippeioi, a golden triobol, etc...; from that of the younger (τῆς νεωτέρας) two golden obols, etc." There is clearly no doubt that the elder goddess is Demeter, the younger, Kore; and that too in an inscription as early as 329/8 B.C. "*Neotera*" is taken in the only possible sense, "the younger (as against the older) goddess," with full comparative force. Thus the identification of Sabina, the "new Demeter," with the *Neotera* of *CIG* I 435 cannot hold, both because "*Neotera*" at Eleusis can mean only Kore, for obvious reasons, and because *neotera*, with its comparative force, is not *nea*.

Similarly in Egypt, there is extant an inscription from Dendera, of the reign of Trajan, relating the good works of a certain Isidora in her gifts to a temple of the goddess known as "*Neotera Thea*", "*He Neotera*", and "*Aphrodite Thea Neotera*".<sup>16</sup> The editor equates "newer Aphrodite" or "Aphrodite the newer goddess" with Plotina, the wife of Trajan. But even as *neotera* was seen to be meaningfully comparative at Eleusis, so must it be here. The solution probably is that we are dealing with the worship of the Greek rather than the Egyptian Aphrodite (= Astarte). That Aphrodite was worshipped both in an Eastern, and later in a Greek form was known to the ancients; Herodotus (ii, 112) makes mention of it. Hence, it is "the younger Aphrodite." Again, the identification of "*Neotera*" with Plotina as "*Nea Aphrodite*" cannot be sustained; for while the first epithet refers to the Aphrodite worshipped, the second means merely that Plotina assumed the divinity of the well-known (Greek) Aphrodite. The two terms are not equivalent.

<sup>15</sup> *SIG*, II<sup>2</sup>, 587, II. 301-2.

<sup>16</sup> *CIG*, III, 4716c.

Finally, Oxyrhynchus Papyrus 1449, of the early third century A.D., mentions a temple of the goddess *Neotera*, this being the full form of the name. The date of the document is sufficient to confirm our rejection of both Sabina and Plotina as identified with the goddess, whoever she may be. Perhaps this is a second mention of the cult of Aphrodite; the editors read 'Αφρο] ?δειτ(η) in l. 33. At any rate, we have reached a period when reference to the adjective is quite enough for her name: "*Iunior* the goddess." Especially to be noted is that the phrase "Thea Neotera" does not occur, even as it did not in the inscriptions. Either *neotera* is used in the original adjectival sense, as in the inscriptions from Eleusis, or it becomes by usage a *Beiname*, not modifying but equaling the name of the goddess, whence "Neotera Thea". We cannot identify the goddess of the papyrus further; the editors think her to be Hathor-Aphrodite. But we can be sure that there was a reason for her name *Neotera*, even as Kore and Aphrodite are both explicably *iuniores*, and even as a god is but rarely *neos*, which is reserved for humans assuming divinity.<sup>17</sup>

The Dendera inscription and the Oxy. papyrus are the only sources for the worship of something called *Neotera* in Egypt. Taken together with the references from Eleusis, they present some rather interesting conclusions:

First, it has not been possible to equate *neos* and *neoteros*. On the contrary, the latter had a specific meaning which *neos* did not.

Second, it has not been possible to discover Isis (to whom Cleopatra's title on the tetradrachm is said to refer) as "Neotera", although this may but indicate the weakness of our sources.

Third, none of this has to do with Cleopatra, the only person known to us as "Thea Neotera".

In a final attempt to salvage the *opinio communis*, one may consider the worship of Cleopatra herself. Thus Nock: "The Νεωτέρα worshipped at Oxyrhynchus was very likely Isis, identified with Aphrodite, though there may be an element of the earlier Isis-Cleopatra, a divinity certainly worshipped after Cleopatra's earthly death." Whether the *Neotera* was ever Isis has already been seen to be a matter of considerable doubt. As to the worship of Cleopatra herself,

<sup>17</sup> See Nock, "Notes on Ruler Cult," *Journal of Hellenic Studies*, XLVIII (1928), pp. 30-38.

Nock refers to a papyrus to be found in Wilcken, containing the phrase "Ἀφροδίτης τῆς καὶ Κλεοπάτρας."<sup>18</sup> Wilcken has doubts as to the context of the words, but he assumes it to refer to the existence of some kind of cult. Even so, he makes no attempt to attribute it to the last queen of Egypt, entitling the fragment, "Kult *einer* Kleopatra in der Zeit Severus Alexander." Similarly, the existence of a Κλεοπατρεῖον at Rosetta in the first decade of our era does not prove the worship of Cleopatra VII. On the contrary, the worship of the Ptolemies was forbidden after the conquest of Egypt, for their cult being substituted the worship of the emperors and their families.<sup>19</sup>

In conclusion, we know for a fact only that Cleopatra was at one time hailed as Isis or "Nea" Isis. But the arguments drawn there from must be abandoned: there is no connection between this title and "Thea Neotera"; there is no connection between the titles "Neotera Thea", of the inscriptions, and "Thea Neotera"; there is no evidence that the worship of a *Neotera* in the Christian era had any reference to Cleopatra; there is no evidence that the word *neotera* of her title was ever intended to mean anything other than just what it obviously does mean, "the younger"; there is, in short, no evidence that "Thea Neotera" ever had any divine significance at all.<sup>20</sup> It remains for us to discover what that title really did mean.

\* \* \*

If the *neotera* of Cleopatra's title had no religious significance, perhaps it had a nominal significance. The Ptolemaic fondness for eulogizing agnomina is well known — "Soter," "Euergetes," etc. Further, the religious character of the agnomen is clearly indicated in the cult inscriptions, for when the agnomen occurs there, it very often is preceded by the adjective *theos*. Conversely, *theos* never

<sup>18</sup> *Chrestomathie der Papyruskunde* (Leipzig, 1912), I, ii, no. 115.

<sup>19</sup> Otto, *Priester und Tempel im Hellenistischen Ägypten* (Leipzig, 1905–8), I, p. 61.

<sup>20</sup> Contrary to the general opinion. See, e. g., Grant, *FITA*, pp. 63, 64; Taylor, *The Divinity of the Roman Emperor* (Middletown, Conn., 1931), pp. 126–7; Nock, *op. cit.*, p. 36 and n. 79. The most recent treatment, Bonner and Nock, "Neotera," *Harvard Theological Review*, XLI (1948), pp. 213–5, achieves its identification of an allusion to a "Cleopatra cult" only by reference to the "Thea Neotera" of the coins and the continued misrepresentation of Wilcken.

occurs without the agnomen following. That is, Ptolemy VIII may be found as "King Ptolemy Euergetes," or "King Ptolemy the divine Euergetes," but he is never just "the divine."

Certain agnomina were favored, and eventually one was repeated. Thus Ptolemy VIII, the second of his line to be called "Euergetes," is sometimes — but not necessarily — "ho Deuteros Euergetes." Similarly, Ptolemy X is "ho Deuteros Soter." A differing usage is seen in the title of Ptolemy IX, "Theos Neos Philopator." Thus "Neos" or "ho Deuteros" indicates the repetition of the agnomen.

But if we then turn to the titles of Cleopatra, we discover that "Thea Neotera" is not only unknown for her except from the coins, but that it is unknown, whether in the masculine or feminine, for any of the other Ptolemies and their wives. On the contrary, when an epithet does occur in the inscriptions, we find Cleopatra to bear a standard Ptolemaic title, "Thea Philopator."<sup>21</sup> But, when we consider the coins, the question arises: why is "Neotera" there to be read at all? Numismatically, the Ptolemaic system of titles is quite different from that of the inscriptions. The title generally does not advance beyond, "Ptolemy, king" or "Arsinoe, queen." The agnomina do occur, but not often (whence Cleopatra as "Newer" would be rare); the number of iteration is never used (whence Cleopatra as "new..." would be unique). Moreover, the use of "Theos" is exceedingly scarce, and probably indicates the divinization of the dead.

The legend of the "Antioch" tetradrachm is then unsatisfactorily understood. That "Thea Neotera" does not refer to the deification as Isis has been demonstrated; but neither can it be taken as part of her official title, for neither the inscriptions nor the coins can even render it meaningful, much less offer a single parallel. It is now clear that "Neotera" cannot be a divine epithet similar to "Philopator" or "Soter" because it is simply a comparative adjective. It cannot be a substitute for *nea* or *he deutera*, first because it is not followed by the epithet it would have to modify, and second because it does not mean "new" but "*iunior*." Nor can "Neotera" modify "Thea," the word preceding, since it already has been shown that *thea* does not itself appear except as modifying the epithet, or, on the coins, in commemoration of the dead. Thus, if "Neotera" is merely an adjective, it has

<sup>21</sup> *OGIS*, I, p. 194.



nothing to modify; if it is a noun-epithet, it is unexampled and meaningless.

The only solution can be in a completely literal acceptance of the legend as it stands, without reference to any literary source. We have already accepted that "Neotera" must imply a "Presbyteria," and that it must modify something. It cannot modify nothing; it cannot modify "Thea"; therefore, it must modify "Cleopatra." We have already seen that *thea* is an adjective in the cult titles, and that it does not occur alone. Yet if "Neotera" modifies "Cleopatra," "Thea" is an adjective with nothing to modify, and it stands alone. Therefore, "Thea" is not an adjective; it can only be an agnomen. In other words, the legend of the tetradrachm has consistently been misread as "Basilissa Kleopatra, Thea Neotera," that is, "Queen Cleopatra, the new goddess," or "Queen Cleopatra, the goddess Newer," to carry the cult of *Neotera* to its logical extreme. Actually, it is to be read, "Basilissa Kleopatra Thea, Neotera" — "the queen Cleopatra Thea, junior," if you will, "The other Cleopatra Thea." But "Neotera" presumes a "Presbyteria"; who was Cleopatra Thea "senior?" The Seleucid queen, of course, a Ptolemy by birth, wife of Alexander I Bala, of Demetrius II, of Antiochus VII, sole ruler of Syria, co-ruler with her son Antiochus Grypus. Cleopatra VII of Egypt is then Cleopatra Thea II of Phoenicia; the Seleucid line is restored (or the Ptolemaic-Seleucid line, for the first Thea could represent them both). Officially she reigns not as Egyptian conqueror but as a Seleucid queen.

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The implications of the title of Cleopatra are not far to seek. To return to our scheme, we must first see how we may better attribute the tetradrachm as to mint, and then investigate the meaning of the coin as a piece of money passing current with this title thereon.

The coin, in my opinion, does not resemble the Antioch drachm sufficiently to support its attribution to that mint. Further, the Seleucid silver of that city was regularly of Attic standard. When Phoenician standard tetradrachms began to appear, concurrent with the Attic, under Alexander I Bala, they were struck only in the coastal cities — Sidon, Tyre, Berytus, Akë-Ptolemais. The two

standards were always strictly separate. Beyond Phoenicia there is no record of the lighter coin. "Under the Seleucids there is not a single instance recorded of an inland city issuing coins based on the Phoenician standard. The use of that standard was confined exclusively to such coastal mints as Berytus (etc.) . . ." <sup>22</sup> Thus to attribute the "Antioch" tetradrachm to that city would do violence to the fact that it could not have been used there. That the coin represents an attempt to introduce to Antioch the Phoenician standard for the first time cannot possibly be upheld. The Antiochenes simply could not have used it.

A second point of evidence also speaks against attribution of the tetradrachm to Antioch. Plutarch (*Ant.* xxxvi, 2), speaking of the first donations in 36, says that Cleopatra received "Phoenicia, Coele-Syria, Cyprus, and much of Cilicia." Nor does Dio mention either Syria or Commagene. On the occasion of the second donations, in 34, Syria was included in the loot, the prize not of Cleopatra, but of her son and Antony's, Ptolemy Philadelphus (Dio, xlix, 41.3; Plutarch, *Ant.* liv, 3). But whether actual control was ever exercised by Egypt over Syria in Philadelphus' name is most doubtful, and if Grant is correct, impossible. For on the basis of style and provenance he attributes to Syria, and to the years 33/2-30, the coins of Q. Opius. <sup>23</sup> Even if Grant's attributions be incorrect, we know that Munatius Plancus was governor of Syria in 35, while C. Sosius was proconsul; Calpurnius Bibulus is thought to have been governor from 34/3 to 33/2. <sup>24</sup>

In fine, Syria was probably never under direct Ptolemaic control after the donations, and had it been, a Phoenician weight tetradrachm would have been the coin she could have used least.

It is impossible to determine definitely the true mint. Cyprus, Crete and Cyrenaica are all out of the question, for they could not have understood the legend "The second Cleopatra Thea." Coele-Syria, as Cilicia, used only Attic weight coins, being supplied from

<sup>22</sup> Newell, *Late Seleucid Mints in Akē-Ptolemais and Damascus* (NNM No. 84), New York, 1939, p. 22.

<sup>23</sup> *FITA*, pp. 61-4.

<sup>24</sup> Broughton, *The Magistrates of the Roman Republic* (New York, 1952), II, pp. 408-9, 411.

Damascus.<sup>25</sup> Kromayer attacks Josephus' account of the donations (*Ant. Iud.*, xv, 4. 1-2), and he demonstrates that actually Cleopatra had no sovereignty over the coast of Palestine, the balsam and bitumen concessions being the total of her acquisitions from Herod.<sup>26</sup> The same cavil applies to Dio's account. There remains but Phoenicia. No particular city of the land can be chosen; Sidon and Tyre are eliminated since they were specifically omitted from the donations, being autonomous cities. Still, there had been mints all up and down the coast of Phoenicia. In one of them is to be found the mint of the "Antioch" tetradrachm; no one can say more than that.

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Finally, we must consider the purpose of the issue of the tetradrachm. The merely economic purpose is not known, if indeed there was one particular commercial reason for the issue. Our question rather is: what is the presentation of Antony and Cleopatra, and what is their connection?

On the face of it, Antony is no more than a general and a Roman magistrate — *imperator* for the third time, and member of the extra-constitutional board for the re-establishment of the Republic. Cleopatra likewise is no more than queen, the first Seleucid ruler since the death of Antiochus XIII in 64 B.C. However, much has been made of the appearance of Antony and Cleopatra together; for if individually they seem not to vaunt themselves, together they hint imperatorial greatness or even divinity — or so has run the interpretation.

If they are shown merely as a married couple, we are struck by the circumstance that Cleopatra has a legend in identification. Antony's other wives never did; they appear on the coinage only because of the importance of their husband. Nor can the coin commemorate the marriage, for that occurred considerably earlier; while Svoronos' attempt to date it after the final divorce from Octavia in 32/1 is voided by the Parthian overstrike. There is no evidence of the marriage on the coin, iconographically speaking. Cleopatra simply appears as she is, a queen in her own right.

<sup>25</sup> Newell, *op. cit.*, p. 48.

<sup>26</sup> "Kleine Forschungen zur Geschichte des Zweiten Triumvirats, III," *Hermes*, XXIX (1894), p. 580, n. 3.

On the other hand, it is argued that Antony is much more than a consort. He is not merely the husband of Cleopatra; he is, rather, king of Egypt by virtue of his marriage and, indeed, "supreme ruler of the inhabited world."<sup>27</sup> Yet had such really been the case there surely would have been a radical departure from the simplicity of the titles which actually present themselves. Moreover, an examination of all the Ptolemaic coinage reveals that the ruling couple are *never* pictured on opposite faces of the coin. Generally there were two coinages, one for the queen, one for the king. When they do, rarely, appear together, they are always found with jugate busts on the one side, the regular reverse type of the eagle filling that face of the piece. Similarly, in the Seleucid coinage only jugate busts are found; indeed Laodice and Cleopatra Thea are the only queens who ever appear on the coinage at all. In short, following all tradition, Antony, as far as the "Antioch" tetradrachm is concerned, cannot have been presented as king and co-ruler with his wife, queen of Egypt and Phoenicia.

Finally, it might be asserted that Antony is a god. The iconography cannot support the point, and our realization that "Thea Neotera" does not refer to Isis, Aphrodite, or any other goddess is enough to reject the idea.

The other coins of Antony and Cleopatra only confirm these findings. The couple is never pictured together, and their legends are always distinct. The one exception, the bronze Berytus (?) piece, only strengthens the case, for here there is no legend for Antony at all. His head alone appears, the legend around it being but a continuation of the title of Cleopatra from the obverse. Antony in fact is displaced by other reverse types, the legend, however, remaining constant. Again we must reject the contention of a joint reign with Cleopatra.

In conclusion, the tetradrachm under discussion has, effectively, no reverse. Either face serves as an explanatory obverse. Moreover, the briefest survey of the Asian coinage of Antony shows that his head consistently appears alone, with no identification, much less any title. Similarly, the Asian coinage of Cleopatra manages to do without any more reference to her than her effigy; presumably the public was

<sup>27</sup> Tarn in *Cambridge Ancient History*, X, p. 81.

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aware of the features, if not the names and titles, of its ruler. Here, then, is an Eastern piece, with two obverses, bearing legends which in point of fact are not necessary and — more important — not usual. It was struck by a Roman general in territory not under his control — for Cleopatra was “Basilissa”; or it was struck by a queen who gave equal honor to a man no more than her husband, and not designated even as such. On these lines, I suggest, the tetradrachm is meaningless.

I submit that the “Antioch” tetradrachm is in fact a joint issue. It does not indicate a joint reign (for we would expect jugate busts), but a jointness of reign. Cleopatra is the queen of Phoenicia in law (and does the coin not commemorate the fact? For only this piece is found in quantity with her new title, and that too the earliest occurrence of the title, as far as we know), Antony its ruler in fact. Each plays his own role in the political supremacy of the land, and that they happen to be married is quite beside the point. Each rules, Antony being presented on the coin as though it were struck under his sole jurisdiction, Cleopatra appearing as though on her own coin (and as the first Thea had on the money of her sole rule). The qualifications of each are there to read: Antony is triumvir, Cleopatra is the new Seleucid queen. Erase one face of the coin and the other is no more disturbed than would be the rule of the one (legally speaking, not actually) if the other were eliminated.

The precise subtleties of Cleopatra’s position are still to be investigated. Did she intend to appear as a Seleucid queen quite apart from her Ptolemaic rule? Or was the reference to Thea rather an attempt to bring together the two kingdoms into one empire by calling on the shade of one who represented them both? In either case, the coin can no longer be taken as evidence of a political use of the deification of Cleopatra, as evidence in the argument that Actium was the culmination of a religious war against Rome. It proves rather that Cleopatra took seriously enough the donations of Antony. She assumed the position of Seleucid, or at least Ptolemaic-Seleucid, queen, naming herself after the only Seleucid queen who enjoyed a sole reign, Cleopatra Thea. For this, the one piece of evidence (apart from her double-date which I believe to refer to her two, simultaneous reigns) is the “Antioch” tetradrachm, now, I suggest, correctly interpreted,

which served the double purpose of proclaiming Cleopatra the new Seleucid queen and Antony neither king, nor consort, nor god, but the ruling Roman general and magistrate.

THEODORE V. BUTTREY, JR.

Since the above was completed a new article by A. D. Nock has appeared, "Neotera, Queen or Goddess?" in *Aegyptus*, Anno XXXIII, Fasc. II (July-Dec. 1953), pp. 283-296. Concerned mainly with discovering to which goddess "Neotera" referred, he adduces no new evidence connecting her with Cleopatra. And if I am correct in believing that Nock now rejects the Neotera-Cleopatra identification under the Empire (p. 289) [cf. the earlier Bonner-Nock article] and holds to it only for Cleopatra's lifetime or shortly after her death (p. 286, 292), then the argument rejecting any identification at all is so much the stronger, for the only evidence—the numismatic—cannot stand. T. V. B.



## THE BRONZE ALLOYS OF THE COINAGE OF THE LATER ROMAN EMPIRE

A summary study of the secondary numismatic literature relating to the bronze coinage of the fourth century demonstrates clearly the importance of the alloys which were used in the coin metal. The specific question of whether or not there was a silver wash on the coins of the period following the first tetrarchy that was meant to increase their intrinsic value still remains open. If one holds erroneously, as Mickwitz and the earlier writers apparently did,<sup>1</sup> that the bronze coins were not fiduciary, then this silver coating, if present, would have played a very important role in determining the intrinsic value of the currency and its face value.

In truth, however, it is most probable that the bronze coinage was fiduciary. Most recent opinion with regard to these coins has tended towards the belief that their monetary value rested upon other factors than their intrinsic value. The metallic content of the coinage played a very small part indeed as compared with such factors as whether or not the fiduciary coins could be readily exchanged for ones with full bullion value and whether or not they were acceptable to the government in satisfaction of tax debts at full face value. Nevertheless it is clear that a silver wash on a bronze coin may well have been intended to indicate that it was to be considered as more valuable than a simple bronze piece, as would normally be the case if a silver

<sup>1</sup> Mickwitz, "Geld und Wirtschaft im römischen Reich des IV Jahrhundert n. Christus," *Societas Scientiarum Fennica (Finska Vetenskaps Societeten, Helsingfors)*, *Commentationes Humanarum Litterarum*, IV, 2, p. 62, calculated the value of the coins and established the denominations on the basis of the intrinsic value of the metal. P. Strauss, "Remarques sur la monnaie de cuivre au IV<sup>e</sup> siècle," *Revue numismatique*, Ser. 5, Vol. VIII (1944-45), pp. 4-5, felt that the diminution of the weight of the bronze coinage as well as the debasement of the alloy by reducing the silver content from four to two per cent was a sufficient explanation for the rising price of a pound of gold. Mattingly, *Roman Coins*, pp. 232-3, attributed the instability of the value of these *aes* coins to the same factors.



washed coin were to come into conditions of perfect competition in circulation with a plain bronze one. A smaller silvered piece might well represent a higher denomination than a heavy all bronze coin. Exact information on the nature of the coin metal would therefore be invaluable in the identification of the individual denominations.

The fact that a certain number of coins from the fourth century appear to have a silver wash was recognized very early. These coins are relatively few in number as compared with the sum total of extant fourth century bronzes, but the appearance of some of them would clearly lead one to the conclusion that silver was present on the surface to an appreciable degree. Many of the reports of hoards or excavations make specific mention of the presence of the so-called silver wash on some of the pieces,<sup>2</sup> and the standard secondary works, as mentioned before, are replete with references to the "silver-washed" currency of the fourth century.<sup>3</sup> Such references, however, are really based upon a comparatively few coins and even fewer analyses, so that it is quite clear that the entire problem must be re-examined.

The Romans were capable of obtaining refined copper and lead which were virtually pure.<sup>4</sup> In the production of alloys for use in coinage they could, if they chose, either include or exclude any appreciable amounts of the common or precious metals. They could refine the copper and lead ores used in the coin alloys so as to remove

<sup>2</sup> C. H. V. Sutherland, "A Roman Hoard from Lincolnshire," *Numismatic Chronicle*, Ser. 6, Vol. II (1942), p. 108, and Mattingly, "A Small Roman Hoard from Winchester," *Numismatic Chronicle*, Ser. 6, Vol. IV (1946), pp. 152-7, may be taken as examples of such reports.

<sup>3</sup> To cite only a few of these references see Mommsen, *Histoire de la monnaie romaine*, trans. Duc de Blacas, III, pp. 97-8; Maurice, *Numismatique constantinienne*, I, p. 427; Segrè, *Metrologia e circolazione monetaria degli antichi*, p. 436; "Inflation and Its Implication in Early Byzantine Times," *Byzantion*, XV (1940-41), p. 255, note 24; Mattingly, "The Monetary Systems of the Roman Empire from Diocletian to Theodosius I," *Numismatic Chronicle*, Ser. 6, Vol. IV (1946), pp. 112-3; Giesecke, *Antikes Geldwesen*, p. 189. Many more citations of this order can be given.

<sup>4</sup> On the extraction and purification of copper in antiquity see J. and L. Sabatier, *Production de l'or et de l'argent et du cuivre chez les anciens et hôtels monétaires des empires romain et byzantin*, pp. 50-3; J. Hammer, "Der Feingehalt der griechischen und römischen Münzen," *Zeitschrift für Numismatik, neue Folge* XXVI (1926), p. 12. Cf. R. J. Forbes, *Metallurgy in Antiquity. A Notebook for Archaeologists and Technologists*, pp. 231-377. Forbes, *op. cit.*, pp. 169-230 deals with the production of silver and lead in antiquity.

the silver which is normally present in those ores as an impurity. The analysis of the coinage in the period following the reign of Valentinian I supports this contention, as does a passage from Cassiodorus in which that sixth century author indicates that the currency of his day was supposedly of pure metals, and that the precious and base metals were kept separate.<sup>5</sup> Leyden Papyrus X demonstrates clearly that by the third century man's knowledge of the metallurgical arts was so far advanced that the separation of silver from lead or copper ores did not present any insurmountable problems. Conclusive evidence, however, that the Romans were capable of separating the various metals found together in the ores of the fourth century is to be found in the text of *Codex Theodosianus*, IX, 21, 6 (Feb. 13, 349 A.D.), which will be discussed in detail at a later point.

A quantitative analysis of a series of late Roman bronzes should therefore furnish clear proof of whether or not the Romans did refine the constituent elements of the bronze to a high degree at all times and whether or not they applied a silver coating to the surface. If the percentage of silver in the coin alloy is two per cent or better, it can be safely assumed that silver has been added to the metal with a definite purpose in mind. If the silver content lies below two per cent, the explanation for its presence must lie elsewhere. The amount of two per cent has been chosen arbitrarily, but it is reasonable. If the silver content were less it would hardly impart a lasting sheen to the coins, and if it were applied solely to the surface it would be rapidly worn away leaving only the bare bronze.

The analysis of late Roman bronzes should yield still more information of value. If the series of coins is extensive enough, it should be possible to determine how strictly the Romans sought to maintain a specific alloy and also at what periods changes were made in the metallic content of the coins. This, of course, rests upon the presumption that discipline at the various mints was strict, and that the orders transmitted to the mintmasters by the imperial government received unquestioned and absolute obedience.

A record of a number of such quantitative analyses exists in the various numismatic publications. In the Appendix to this article 104

<sup>5</sup> Cassiodorus, *Variae*, VII, 32: *Auri flamma nulla injuria permixta albescat, argenti color gratia candoris arrideat, aeris rubor in nativa qualitate permaneat.*

such analyses involving a total of 319 coins extending from the reign of Diocletian to that of Heraclius have been collected. Unfortunately the pieces that have been analyzed have not in all cases been adequately described. This presents a problem because of the large number of ancient counterfeits of fourth century bronzes. Nearly half of the coins found in the rubbish heaps at Oxyrhynchus were cast and therefore of illegal origin.<sup>6</sup> The early fourth century really shows extraordinary activity on the part of the counterfeiters.<sup>7</sup> This, as is to be expected, was immediately reflected in a rash of laws designed to put an end to the practice of forging currency by setting forth increasingly severe punishments for that crime.<sup>8</sup>

The problem of such counterfeits coming from antiquity is a real one even in our time, and it has troubled the modern numismatists in the preparation of their catalogues. The French scholar Maurice, who wrote the standard work on the coinage of Constantine, encountered this difficulty in its most serious form. A series of pieces is known which have the same type in silver and in silvered bronze.<sup>9</sup> There are other bronze coins which, according to Maurice, occur with a visible silver wash and without it in the same type.<sup>10</sup> It seems obvious that the first series just cited, *i.e.*, that including coins occurring in silver and in silvered bronze, is composed of true silver pieces and counterfeit bronzes which were meant to circulate as silver.<sup>11</sup> The second group, however, presents a more difficult problem. It may be that originally the entire series of coins was silver coated, but that in the course of time the thin covering layer of silver was worn off completely on some of the pieces. It is even possible that the silvery appearance of some of the coins may be the result of salts or oxides not containing silver, or perhaps some of the bronze coins were

<sup>6</sup> J. G. Milne, "Report on the Coins found at Antinoë in 1914," *Numismatic Chronicle*, Ser. 6, Vol. VII (1947), p. 112.

<sup>7</sup> Maurice, *Numismatique constantinienne*, I, pp. 229-30, and 435. For the concave bronze coins from cities which are not known to have had mints see Blanchet and Dieudonné, *Manuel de numismatique française*, I, p. 151.

<sup>8</sup> *Codex Theodosianus*, XI, 21, 1; *Ibid.*, IX, 21, 2 = *Codex Iustinianus*, IX, 24, 1; *Ibid.*, VII, 13, 2. Cf. Maurice, *Numismatique constantinienne*, I, pp. xxiv and cxix. Many more laws may be cited.

<sup>9</sup> Maurice, *Numismatique constantinienne*, I, pp. 397-8.

<sup>10</sup> *Ibid.*, I, p. 427.

<sup>11</sup> *Ibid.*, I, pp. 397-8.

silver-washed or zined by counterfeiters since antiquity or even during the fourth century. The many possibilities present a problem in themselves, but a careful chemical analysis of these coins would eliminate some of these hypotheses. Such an analysis would only be of use, however, if a full description of the type were given for each specimen, so that it would be possible to establish the relationships, if any, between the percentage of silver, the mint, and the coin type.

With these difficulties in mind it is still possible to make some general statements regarding the alloys of the coins listed in the Appendix. These analyses, as can be seen from the notations in the column for losses or the totals of the percentages given where no notation of loss was made by the original authors, have been carried out rather carefully, and as a group they represent a fairly accurate picture of the metallic content of late Roman bronzes. The silver content of individual coins only rises above two per cent exceptionally. Approximately  $9\frac{1}{2}$  per cent of the total number of analyses show silver in excess of two per cent. Since these analyses, however, include coins struck as late as the reign of Heraclius, at which time there is no question of a silver coating, a more accurate calculation would limit the number of analyses involved to the period before the reign of Theodosius I. Of the 73 analyses which fall into that category only about  $13\frac{1}{2}$  per cent show more than two per cent of silver. A total of ten coins, all dated in the reign of Valentinian I or earlier, show upon analysis what may be considered appreciable amounts of silver. Five of these ten coins have weights above eight grams and five of them have weights below  $5\frac{1}{2}$  grams. All of the heavier coins are attributed to Diocletian and Maximian while the lighter ones are attributed to Galerius, Magnentius, Constantine II, and Valentinian I.<sup>12</sup> In the case of Magnentius only two coins were analyzed, and both showed silver in excess of two per cent. In all other cases the number of coins showing only small amounts of silver or none at all exceeded the number of pieces with a possible silver coating.

<sup>12</sup> Hammer, "Der Feingehalt der griechischen und römischen Münzen," *Zeitschrift für Numismatik, neue Folge* XXVI (1926), p. 143, maintained that from Diocletian on the larger bronzes contained some silver, but that silver was only added to the smaller bronzes from the reign of Constantine onwards.

This wide variation in the silver content of the alloy is further reflected in the composition of the major constituents of the coins. The base metal content of the *aes*, as can be seen, varied considerably. The mint authorities do not seem to have striven for uniformity of composition in the coinage. In many cases no zinc at all was found in the coins, while the percentage of lead was often quite high. The actual coin weights and types for those pieces showing high lead content are unknown. The general picture, however, does not show any rational order in which the composition was varied. This would seem to indicate that the agency for the preparation of the blank discs from which the coins were struck did not mix highly refined metallic elements in exactly prescribed proportions, but rather that raw metals, which had been refined to varying degrees, were mixed. It must be remembered that the metallic content of the bronze would be relatively unimportant because it merely served as a base for a fiduciary coin of low face value.

Probably the most important analysis of late Roman bronzes was that carried out by Brambach on 216 coins of the reign of Constantine the Great. Tests showed the presence of 1.98 per cent of silver and 0.02 per cent of gold. The weight of the metal involved in this analysis was about two Roman pounds, so that the weight of the silver was only some 13 grams out of a total of approximately 646 grams of metal. Even this is a fairly high percentage as compared with the majority of the analyses. Unfortunately these tests can only be considered as uncontrolled because there are no descriptions of the coins involved. Since the total amount of silver was so small, the presence of only a single coin that was silvered in antiquity might negate the validity of the entire analysis. Still the amount of silver is so small that these results may be interpreted as indicating that the bronze coinage of that period was not silver coated, but that small amounts of silver were left in the metals used in the coin alloy.

Prior to the analysis of nine large *folles* of the western half of the Empire which had been part of the Seltz hoard, it was customary to rely on the work done by Hammer and to say that fourth century bronzes had a silver wash which formed from two to four per cent of the mass of the coin, but that since most of the silver was applied on

the surface it had worn off to a large degree.<sup>13</sup> The very accurate and painstaking analysis carried out by Lewis on the nine large bronzes from the western half of the Empire revealed no silver whatsoever. Those coins which seemed to have a "white" or silvery coating were found upon analysis to have a thin layer of copper salt deposited on the surface. On very close examination it was further revealed that this copper salt was actually green in color.

In the preparation of the coins for this analysis a great degree of care was evident, for in some cases the surface layers were removed until bright metal was exposed, but in others the fragments were analyzed as received. This would appear to be definite proof that during the period of the first tetrarchy the bronze coinage of at least the western half of the Empire was not silver washed. There may have been a difference in the metallic composition of the coins from the eastern half of the Empire, but the fact that only a very few authors have noted the mints in conjunction with the analyses negates any possibility of determining whether or not such was the case. It should be noted, however, that four of the ten coins showing silver in excess of two per cent are attributed to Maximian who ruled in the West. The coins which are derived from the rulers in the East do not show quite as much silver. It is therefore most likely that in the East, as well as in the West, silver was not one of the elements added to the coin alloy.

On the basis of his research Lewis maintained that the coins of the first tetrarchy were not silvered. He was, however, faced by the fact that a law in the Theodosian Code, which has already been mentioned and which we shall re-interpret at a later point, seemed to indicate that in 349 A.D. there was silver in the coinage. Earlier writers had consistently explained that the edict of 349 was evidence of a silver wash on the bronze coins.<sup>14</sup> Therefore, following Mattingly and Mickwitz, Lewis pointed out that not long after 340 A.D. there was a

<sup>13</sup> *Idem*. Cf. Mickwitz, "Geld und Wirtschaft im römischen Reich des IV Jahrhundert n. Christus," *Societas Scientiarum Fennica (Finska Vetenskaps Societeten, Helsingfors)*, *Commentationes Humanarum Litterarum*, IV, 2, *op. cit.*, pp. 83-4.

<sup>14</sup> See Babelon, *Traité des monnaies grecques et romaines*, I, pt. I, cols. 608-9, for one of the most far-reaching of such interpretations.

change in the coinage with the issuance of a new piece of greater weight. The most probable date for this change was 348 A.D. Lewis contended that the edict of 349 referred to these new coins which he called the *maiorina pecunia*, since they were larger and the term occurred in the edict of 349. He attempted to support this further by pointing out "that even in 356 A.D. after a second rise in weight to ca. 6 grams, not all *folles* were of this "somewhat larger coinage" is shown by the summary of Codex Theodosianus IX. 23. 1 in the Vatican MS.... *ut nulli viatori liceat amplius a mille follibus portare neque centenionales* (small coins) *vel maiorinas*, if as seems almost unquestionable, *follis* here signifies the coin and not the coin-filled container...."<sup>15</sup>

In refutation of this last point it may be said that it is by no means as unquestionable as Lewis infers that the *folles* mentioned in *Codex Theodosianus*, IX, 23, 1, are the coins and not the coin-filled containers. There is more than adequate proof that such coin-filled containers existed in antiquity. The actual remains of such rolls of coins in leather strips with the ends twisted have been recovered. One such roll was preserved intact, and the traces of others as well as the "spilled piles" of coins matted together by corrosion are known.<sup>16</sup> Etymological and literary proof exists for such rolls of coins,<sup>17</sup> and one early sixth century papyrus gives the price of a suckling pig as one solidus and three *dermata*. It is most probable that the leather container with a specific number of coins is referred to here.<sup>18</sup> It is also true that at least some earlier scholars have interpreted the text in a fashion that Lewis feels is impossible. Finlay, in a short note, specifically takes it to be the sack filled with coins and points to the example

<sup>15</sup> N. Lewis, *A Hoard of Folles from Seltz (Alsace)*, NNM 79, pp. 17-21.

<sup>16</sup> *Ibid.*, pp. 3-4. He points to the modern usage in which coins are often wrapped in paper in a similar manner.

<sup>17</sup> Babelon, *Traité des monnaies grecques et romaines*, I, pt. I, col. 761. Cf. Isidore of Seville, *Etymologiarum*, XVI, xviii, 11 (ed. Lindsay, 1911): *Folles dicuntur a saculo quo conduntur, a continente id quod continetur appellatum*. Also see Hultsch, *Metrologorum Scriptorum Reliquiae*, I, pp. 144, note 4; 267; 303; 308; 342-3; II, pp. 105; 151-2. *CIL.*, V, 1880 (late fifth or early sixth century) contains the expression "*denariorum folex sescentos*" probably in the sense of a bag of coins worth 600 denarii. Cf. *Ibid.*, VIII, 5333.

<sup>18</sup> P. Oxyrhynchus, 1917; West and Johnson, *Currency in Roman and Byzantine Egypt*, p. 137.

of the modern Turks who used the expression "a purse" for the sum of 200 piastres.<sup>19</sup>

Even more important the analyses listed in the Appendix to this article show fewer coins dated after 349 containing appreciable amounts of silver. Elmer in his study of the coinage of Julian, it is true, refers to the silver-wash (*Silbersud*) which is noticeable on some coins of this reign, but he points out that it is lacking on most pieces. He attributed this lack to the action of the moist earth and said, without giving any reference or detailed evidence, that analyses show that the larger coin of Julian had from 1.20 to two per cent of silver.<sup>20</sup> The list of analyses compiled for this paper is in direct contradiction of Elmer's statement. Only one coin after 355 A.D. shows more than 0.35 per cent of silver, and that coin is attributed to Valentinian. Any silvery appearance on these mid-fourth century pieces would seem to be the result of copper salts.

A new explanation must be found for the fact that ten of the analyses show silver in some quantity as well as for the edict of 349. These two bits of evidence must be connected. The solution, however, is readily attainable if it is remembered that even today the largest part of the silver produced each year is a by-product of copper and lead refining, and that copper and lead are two of the major constituents of bronze. Native copper always contains some dissolved silver, and *galenite*, the usual lead ore, very commonly contains silver sulphide in addition to lead sulphide. In metals which were not highly refined some of this silver would remain. The analyses show quite conclusively that highly refined components were not mixed to prepare the coin alloy, and that the formula for that bronze was not strictly adhered to by the various mints. Therefore some silver would remain in the coins.

How is the law of 349 A.D., which specifically refers to silver in the *maiorina pecunia*, to be understood in the light of this new view? According to the *Lex Julia*, as commented upon by Ulpian, it was

<sup>19</sup> Finlay, *Greece Under the Romans* (London, n. d.), p. 127, note 1.

<sup>20</sup> Elmer, "Die Kupfergeldform unter Julianus Philosophus," *Numismatische Zeitschrift, neue Folge* XXX (1937), p. 31. He also maintained that the smaller coins were of pure copper, and that only individual ones showed as much as 1/1000th part of silver. The examples of this coin which were silvery in appearance, he concluded, had been either silvered or zined since antiquity.



forbidden at an early date to insert or to mix anything into the alloy of the public currency, and it was also forbidden to extract anything therefrom.<sup>21</sup> This important law was still in force in the fourth century. The text of the edict of 349 A.D. reinforces this provision with reference to a specific set of circumstances. The exact instance in question becomes evident from a careful review of the wording of the law.

*Imp. Constantius A. Limenio P(raefecto) P(raetori)o* Comperimus non-nullos flaturarios maiorinam pecuniam non minus criminose quam crebre separato argento ab aere purgare. Si quis igitur post haec fuerit in hac machinatione deprehensus, capitaliter se fecisse cognoscet, verum et eos, qui domum agrumque praebuerint, relatis in largitionibus facultatibus esse plectendos; nostra scilicet super eorum nominibus edocenda clementia. *P(ro)p(osita) prid. id. Feb. Limenio et Catullino cons.*<sup>22</sup>

This is a constitution addressed to the Praetorian Prefect Limenius, designed against the *flaturarii* who frequently cleanse (*purgare*) the *maiorina pecunia* by separating the silver from the bronze. There is no need at this point to determine what is meant by the *maiorina pecunia* other than to indicate that it was obviously a form of bronze currency. The text of *Codex Theodosianus*, IX, 23, 1, makes this abundantly clear. The *flaturarii* are easily recognizable as some of the mint workers. It was their function to cast and to prepare the coin flan or blank discs of metal which were later struck by other workmen at the mint.<sup>23</sup> It must therefore be borne in mind that the fraudulent practice which this constitution is directed against was definitely perpetrated prior to the striking of the coin and the possible application of any silver wash on the surface. It was a crime carried out prior to or during the casting and preparation of the flan or blank from which the coin itself was to be struck. What had happened to cause the issuance of this new edict reinforcing the substance of the

<sup>21</sup> *Digest*, XLVIII, 13, 1. This law refers to gold, silver and bronze. *Basilika*, LX, 45, 2, prohibits only the adulteration of gold and silver, but it does not mention bronze.

<sup>22</sup> *Codex Theodosianus*, IX, 21, 6 (Feb. 13, 349 A.D.).

<sup>23</sup> F. Lenormant [E. Babelon] in Daremberg-Saglio, *Dictionnaire des antiquités grecques et romaines*, III, pt. II, p. 1984. For this meaning in words related to *flaturarius* see Vitruvius, II, 7, 5, and Pliny, *Naturalis Historiae*, VII, 56, 57, 197. Cf. Mommsen, *Historie de la monnaie romaine*, trans. Duc. de Blacas, III, p. 15. It was Mommsen's view that the phrase *conflare pecunias* meant to separate precious metal from the base metal coin.

*Lex Julia*? Possibly it was reported to the Emperor Constantius II that some of the *flaturarii* were further refining the metal sent to them so as to remove the last vestiges of silver from the copper and lead ores before making the blanks. Since there would be virtually no change in the appearance of the coins they could do this successfully and secure a profit, if the silver content of the metallic ores was sufficiently high.

This edict therefore does not indicate that the bronze coinage was silver-washed, as has been supposed in the past, but rather the contrary, that the coins were meant to look like bronzes. If the coins were meant to be silver-washed, the fraudulent practice of the *flaturarii* would be immediately obvious to all. The newly issued coins would not present a silvery appearance, and the piece that had been tampered with would never have been received into circulation for fear that the government would not honor it when it collected taxes. Also the fact that this criminal act was apparently restricted to the mint officials indicates that the removal of a silver wash from coins that had already been struck was not at issue. If it were a mere removal of silver wash it cannot be doubted that others than mint workers would be involved in the fraudulent practice. Such easy profits would not be permitted to slip by. The metal workers of the Empire and other members of the ordinary population would also have plied this trade with vigor.

In summation it would appear on the basis of the chemical tests and the actual text of the one pertinent law that the coin alloy of the first half of the fourth century was relatively uncontrolled and that the various ingredients were not highly refined. As the coinage of silver coins fell off, however, and as the use of such silver coins came to be more and more restricted to areas such as Britain, the imperial government took sharper measures to recover all of the silver contained in the ores used for the bronze coin alloy. After the mid-fourth century it seems almost certain that no silver was permitted to remain in the coin alloy.

The migration of the silver coinage to Britain, sections of Gaul, and the lower Danube region is very noticeable during the fourth century. The changes in the weights of the silver coins some time after 355 A.D. indicate a changed mint ratio. Without diverging too widely

from the subject of this article into the controversial field of the intrinsic value and the variations in the supply of silver during the fourth century it can be said that the real reason for the increased care in the recovery of silver in the latter half of the fourth century lies in the changing value of that metal and its restricted use within the borders of the Empire. A study dealing primarily with the silver coinage of that period should yield the final answer.

HOWARD L. ADELSON

APPENDIX I<sup>1</sup>

<i>Emperor</i>	<i>No.</i>	<i>Weight</i>	<i>Copper</i>	<i>Tin</i>	<i>Zinc</i>	<i>Lead</i>	<i>Silver</i>	<i>Iron</i>	<i>Nickel</i>	<i>Gold</i>	<i>Copper Oxide</i>	<i>Loss</i>	<i>Total</i>	<i>Source</i>
Diocletian	1	3.77	94.92	3.05	0.90	0.12	0.25	0.23	0.40				100.00	Bibra <sup>3</sup>
	1	?	88.93	1.20	8.28		1.50					0.09	100.00	Sabatier
	1	2.65	95.84	2.23		1.93							100.00	Bibra <sup>3</sup>
	1	?	91.38	3.85	2.89	traces	1.81	potin of Alex-andria				+ Pb 0.07	100.00	Sabatier
Maximian	1	3.41	98.60	0.90			0.20						99.70	Maurice
	1	3.00	88.84	1.00		2.28					7.88		100.00	Webb
	1	9.50	91.08	3.03	2.15	1.38	1.00	1.13	0.23				100.00	Bibra <sup>4</sup>
	1	10.75	92.78	1.85		1.20	4.18						100.01	Maurice
	1	8.55	92.70	7.30		traces							100.00	Schaeffer <sup>5</sup>
	1	?	87.00	13.00		traces							100.00	Schaeffer <sup>6</sup>
	1	4.70	85.66	6.28		7.79		0.52	0.05				100.30	Lewis
	1	9.50	94.91	1.10		0.07	2.65	0.77	0.50				100.00	Bibra
	1	9.15	97.57	4.61		1.74		0.47	0.04				104.43	Lewis
	1	8.15	92.67	5.07	0.63	0.30	0.40	0.30	0.30				100.00	Bibra <sup>7</sup>
	1	8.50	91.85	3.63		4.46		0.10	0.04				100.08	Lewis
Const. Chlor. Galerius	1	9.30	91.96	3.80		1.34	2.60	0.07	0.23				100.00	Bibra <sup>8</sup>
	1	13.70	89.67	5.52		4.22		0.98	0.04				100.43	Lewis
	1	8.33	97.97	traces		traces	2.03	traces	traces				100.00	Bibra
	1	9.65	86.25	6.41		7.27		0.13	0.03				100.09	Lewis
	1	9.55	94.59	2.00		0.14	3.27	traces	traces				100.00	Bibra <sup>9</sup>
	1	?	96.95	0.87	0.24	1.09		0.20					99.35	Brazener
	1	3.75	94.42	1.04	2.00	1.36	0.22	0.26	0.70				100.00	Bibra <sup>10</sup>
	1	10.25	85.80	5.33		8.55			0.04				99.72	Lewis

9 Notes VI

Emperor	No.	Weight	Copper	Tin	Zinc	Lead	Silver	Iron	Nickel	Gold	Copper Oxide	Loss	Total	Source
Maxentius	1	5.22	96.09	0.98			2.55						100.43	Maurice
	1	2.52	98.87			1.03	traces						99.90	Bibra <sup>11</sup>
	1	?	86.50	13.50									100.00	Schaeffer <sup>12</sup>
	1	?	82.03	5.03	1.30	11.40						0.24	100.00	Sabatier <sup>13</sup>
Max. Daza	1	6.35	88.72	5.85		5.43							100.00	Bibra <sup>14</sup>
	1	7.10	87.98	4.00		6.16		1.38	0.05				99.57	Lewis
Licinius I	1	8.45	87.89	4.49		6.55		0.92	0.04				99.89	Lewis
	1	?	83.75	7.77	0.66	7.82	Also in Sabatier from Göbel						100.00	Bibra <sup>15</sup>
317-323 Const. Mag.	1	4.05	89.59	5.00		3.35	1.86						99.80	Maurice
	1	?	89.50	10.50			traces						100.00	Schaeffer <sup>16</sup>
	1	?	97.30	0.11	0.14	0.34	Nil	1.54	Nil				99.43	Brazener
	1	2.30	90.27	6.81		2.27	0.14	0.20	0.31				100.00	Bibra <sup>17</sup>
	1	3.13	94.07	2.00		2.37	1.04	0.08	0.44				100.08	Bibra <sup>18</sup>
	1	?	92.34	1.34	2.30	1.01	0.83	1.00	0.21				100.00	Bibra <sup>19</sup>
	1	?	95.93	0.35	1.46	0.53	0.25	0.76	0.42				100.00	Bibra <sup>20</sup>
	1	4.10	91.19	3.33	2.70	1.10	0.93		0.75				100.00	Bibra
	1	2.50	94.64	1.56	3.80								100.00	Bibra <sup>21</sup>
	1	?	87.50	7.14	0.91	4.26	Also in Sabatier from Göbel						100.00	Bibra <sup>22</sup>
	1	?	91.39	3.78	0.06	2.81	1.01	0.13	0.10			0.19	99.28	Brazener
	1	4.20	68.87	22.89	1.86	5.85	0.30	0.03	0.20				100.00	Bibra <sup>23</sup>
	1	?	90.60	9.40			traces						100.00	Schaeffer <sup>24</sup>
	1	5.33	75.50	14.00	1.70	7.33	1.03	0.14	0.30				100.00	Bibra <sup>25</sup>
	1	5.75	90.27	4.43		5.30		0.37					99.37	Lewis
216		ca. 646.90	86.03	3.90		8.05	1.98			0.02		0.02	100.00	Brambach

(Average weight of the 216 coins was 3 + grams.)

<i>Emperor</i>	<i>No.</i>	<i>Weight</i>	<i>Copper</i>	<i>Tin</i>	<i>Zinc</i>	<i>Lead</i>	<i>Silver</i>	<i>Iron</i>	<i>Nickel</i>	<i>Gold</i>	<i>Copper Oxide</i>	<i>Loss</i>	<i>Total</i>	<i>Source</i>
Const. I or II 337-361 Constantine II	1	1.32	87.96	4.35	7.69			0.27					100.00	Bibra <sup>26</sup>
	1	2.00	83.55	1.42	14.76								100.00	Bibra <sup>27</sup>
	1	?	77.18	1.57	0.08	19.91	0.36	0.07					99.17	Brazener
	1	1.60	93.82	2.46		2.19	1.75						100.00	Maurice
	1	1.40	84.68	2.80		7.80	3.22	1.40	0.10				100.00	Bibra <sup>28</sup>
	1	2.20	89.68	4.36		4.27	1.03	0.66					100.00	Bibra <sup>29</sup>
	1	2.40	96.01		2.07	1.72		1.00	0.20				100.00	Bibra <sup>30</sup>
	1	1.78	90.01	1.13	1.44	7.00		0.42	traces				100.00	Bibra <sup>31</sup>
	1	2.07	92.75	2.37		3.08		0.53	0.17				100.00	Bibra <sup>32</sup>
	1	3.95	91.65	4.71		1.72	0.90	0.13	0.66				100.00	Bibra <sup>33</sup>
	1	3.20	93.93	1.83	1.76	0.70	1.00	0.55	0.23				100.00	Bibra
	1	2.05	87.77	1.90	1.60	8.20		0.13	0.40				100.00	Bibra <sup>34</sup>
Constans I	1	2.01	91.82	1.40		6.15	traces	0.13	0.30				99.80	Bibra <sup>35</sup>
Constantius II	1	?	90.99	0.42	1.92	5.25	0.97	0.12	0.33				100.00	Bibra
	1	4.44	91.25	2.38	4.44	0.52	0.80	0.20	0.41				100.02	Bibra <sup>36</sup>
Magentius	1	?	88.01	4.08	3.74	3.95						0.22	100.00	Sabatier <sup>37</sup>
	1	3.70	89.08	2.63	2.00	2.27	3.40	0.27	0.25				99.90	Bibra <sup>38</sup>
Gallus 355-363	1	4.00	85.43	2.11	1.38	8.08	2.70	0.30	traces				100.00	Bibra <sup>39</sup>
	1	3.38	95.05	1.97	1.90	0.80	traces	0.08	0.20				100.00	Bibra <sup>40</sup>
363-364 366-376 Valentinian I	1	?	83.68	1.24	0.50	13.98	Nil	0.20					99.60	Brazener
	1	?	83.92	1.10	0.06	13.64	0.35	0.07	0.10				99.24	Brazener
	1	?	86.71	0.78	0.05	11.98	0.26	0.10	0.11				99.78	Brazener
, and Valens	1	4.20	87.08		0.61	9.99	2.02	0.20	0.10				100.00	Bibra
	1	?	92.94	0.70	2.23	2.11						2.02	100.00	Sabatier <sup>41</sup>
	1	2.52	94.66	1.04	1.33	1.82		0.71	0.44				98.85	Bibra <sup>42</sup>

<i>Emperor</i>	<i>No.</i>	<i>Weight</i>	<i>Copper</i>	<i>Tin</i>	<i>Zinc</i>	<i>Lead</i>	<i>Silver</i>	<i>Iron</i>	<i>Nickel</i>	<i>Gold</i>	<i>Copper Oxide</i>	<i>Loss</i>	<i>Total</i>	<i>Source</i>
379-395	1	?	98.16	0.20	0.16	0.41	Nil	0.17	Nil				99.10	Brazener
Theodosius I	1	1.17	98.30			1.76							100.06	Bibra <sup>43</sup>
	1	3.75	96.62	3.38		traces							100.00	Bibra <sup>44</sup>
Arcadius	1	?	90.04	1.25	2.60	6.11	traces						100.00	Sabatier <sup>45</sup>
	1	4.50	95.97	1.22	1.31	1.00							99.50	Bibra <sup>46</sup>
	1	4.30	96.29	0.93	1.50	0.90							99.62	Bibra <sup>46</sup>
	1	3.70	96.68	1.00	0.80	1.02							99.50	Bibra <sup>46</sup>
IV or V cent.	1	?	62.40	0.80		36.80							100.00	Mattingly
	1	?	66.60	0.70		32.70							100.00	Mattingly
	1	?	63.70	1.60		29.70							100.00	Mattingly
	1	?	64.50	1.60		33.60	0.30						100.00	Mattingly
Zeno	1	12.13	96.29	1.11	2.43								99.83	Bibra <sup>46</sup>
	1	6.00	96.20	1.80	0.50	1.30							99.80	Bibra <sup>46</sup>
Anastasius	1	15.31	97.51	1.01	0.93								99.45	Bibra <sup>46</sup>
	1	15.41	97.48	0.50	1.30	0.07							99.81	Bibra <sup>46</sup>
	1	6.01	97.04	0.88	1.03	0.42							99.37	Bibra <sup>46</sup>
	1	?	97.41		2.31							0.28	100.00	Sabatier <sup>47</sup>
Justin I	1	1.90	87.84	4.40	0.70	5.73							98.67	Bibra <sup>46</sup>
	1	1.96	96.91	1.20	0.76		0.33						99.20	Bibra <sup>46</sup>
	1	17.50	98.26	0.51	0.92								99.69	Bibra <sup>46</sup>
Justin I and So-	1	12.10	97.76	0.24	1.60	0.70							100.30	Bibra <sup>46</sup>
[phia	1	11.10	97.26	0.84	1.43								99.53	Bibra <sup>46</sup>
	1	?	96.75	0.80	2.45	traces							100.00	Sabatier <sup>48</sup>
Justinian	1	2.20	93.06	4.80	0.40	1.64							99.90	Bibra <sup>46</sup>

<i>Emperor</i>	<i>No.</i>	<i>Weight</i>	<i>Copper</i>	<i>Tin</i>	<i>Zinc</i>	<i>Lead</i>	<i>Silver</i>	<i>Iron</i>	<i>Nickel</i>	<i>Gold</i>	<i>Copper Oxide</i>	<i>Loss</i>	<i>Total</i>	<i>Source</i>
	1	3.16	84.53	6.82		8.65							100.00	Bibra <sup>49</sup>
	1	?	100.00										100.00	Mommsen <sup>50</sup>
Justin II	1	?	96.75	0.80	3.42								100.97	Mommsen
Maurice	1	4.00	79.94	6.50	6.89	6.12							99.45	Bibra <sup>46</sup>
	1	4.10	79.63	5.33	7.50	7.00							96.46	Bibra <sup>46</sup>
Phocas	1	6.23	96.70	1.00	2.00								99.70	Bibra <sup>46</sup>
	1	5.50	94.93	2.93	1.00	0.50							99.36	Bibra <sup>46</sup>
Heraclius	1	5.91	98.30	0.88		0.37							99.55	Bibra <sup>46</sup>

The source cited is Göbel, but the result is unusual

The source quoted is Sabatier, but it does not seem to be correct



<sup>1</sup> The number of analyses is very limited, and only a very few of these analyses are reported in conjunction with detailed information regarding the coin type or the mint attribution of the coins. It is, therefore, necessary that a study containing such information should be done. The sources of metal for the individual mints must have differed from province to province, and as a result the impurities in the metals would have varied from mint to mint. In the table the coins have merely been attributed to a ruler or a date period according to the scheme of attribution used in the source. The totals have been calculated in some cases by the original analysts, but in many others it was found necessary to supply them. Since these totals give us the amount of material lost in the analysis, they can, in some measure, be used to judge the exactness of the testing, and it may also be seen whether the result might have been materially changed by a closer analysis. In cases where the losses were calculated by the original analyst they have been included. The table itself is self-explanatory. In the columns to the right of the coin weights are the percentages of the various metals included in the alloy.

The principal source of the chemical analyses listed in the table is J. Hammer, "Der Feingehalt der griechischen und römischen Münzen," *Zeitschrift für Numismatik, neue Folge* XXVI (1926), pp. 1-145, which is summarized in a chart on pages 137-144 of that work insofar as it pertains to the period of the Later Roman Empire. Hammer's study is largely dependent on an earlier work by E. Bibra, *Die Bronzen und Kupferlegierungen der alten und ältesten Völker* (Erlangen, 1869). In addition some of the analyses contained in this Appendix were derived from F. A. Schaeffer, "Deux trésors de monnaies romaines découvertes en Alsace," *Bulletin de la Société pour la Conservation des Monuments historiques d'Alsace*, 1926, pp. 93-128; W. Brambach, "Centenionalis," *Mitteilungen für Münzensammler*, I (1924), p. 84; J. and L. Sabatier, *Production de l'or et de l'argent et du cuivre chez les anciens et hôtels monétaires des empires romain et byzantin*, pp. 80-2; Maurice, *Numismatique constantinienne*, III, pp. xxxiv-xxxix; P. H. Webb, "The Pre-Reform Coinage of Diocletian and his Colleagues," *Numismatic Chronicle*, Ser. 5, Vol. IX, (1929), pp. 192-3; Mommsen, *Histoire de la monnaie romaine*, trans. Duc de Blacas, III, pp. 102-3; and p. 103, notes 1 and 2; N. Lewis, "A Hoard of Folles from Seltz (Alsace)," *Numismatic Notes and Monographs*, LXXIX, pp. 76-81; H. Mattingly, "The Bermondsey Hoard, Analysis," *Numismatic Chronicle*, Ser. 6, Vol. VII (1947), p. 91; W. F. Brazener, "Analysis," in R. Mond and O. H. Myers, *The Bucheum*, I, pp. 119-120, and Babelon, *Traité des monnaies grecques et romaines*, I, pt. I, col. 370.

It is worthy of note that the more recent analyses, in general, seem to show less silver content than the earlier ones, but it would be improper to speculate about the cause for this phenomenon. Only in the analyses given by Bibra and Maurice are appreciable amounts of silver to be found.

<sup>2</sup> Antimony 0.10% and sulphur 0.03%.

<sup>3</sup> The analyst is given as Commaille.

<sup>4</sup> Traces of cobalt.

<sup>5</sup> The analyst is given as Mahler.

<sup>6</sup> The coin is one of a group of eight with an average weight of 9.97 grams. The analyst is given as Mahler.

<sup>7</sup> Antimony 0.13%, cobalt 0.11% and sulphur 0.09%.

<sup>8</sup> Traces of antimony.

- <sup>9</sup> Traces of antimony and sulphur.  
<sup>10</sup> Traces of antimony and arsenic.  
<sup>11</sup> The analyst is given as Commaille. Hammer mistakenly lists this as a coin of Maximianus.  
<sup>12</sup> The coin is one of a group of thirteen with an average weight of 7.68 grams. The analyst is given as Mahler.  
<sup>13</sup> Cited by Mommsen-Blacas, Babelon and Hammer from Sabatier.  
<sup>14</sup> The analyst is given as Commaille.  
<sup>15</sup> The analyst is given as Göbel. It is cited by Mommsen-Blacas from Göbel.  
<sup>16</sup> The coin is one of a group of thirty-nine with an average weight of 4.47 grams. The analyst is given as Mahler.  
<sup>17</sup> Traces of cobalt and sulphur.  
<sup>18</sup> Antimony 0.08%.  
<sup>19</sup> Antimony 0.97% and traces of cobalt.  
<sup>20</sup> Antimony 0.30% and traces of arsenic, cobalt and sulphur.  
<sup>21</sup> The analyst is given as Commaille.  
<sup>22</sup> The analyst is given as Göbel. Cited by Mommsen-Blacas from Göbel.  
<sup>23</sup> Traces of sulphur.  
<sup>24</sup> The coin is one of a group of ninety-six with an average weight of 4.49 grams. The analyst is given as Mahler.  
<sup>25</sup> Traces of antimony.  
<sup>26</sup> The analyst is given as Commaille.  
<sup>27</sup> Traces of cobalt. The analyst is given as Commaille.  
<sup>28</sup> Traces of antimony.  
<sup>29</sup> Traces of antimony.  
<sup>30</sup> Traces of sulphur.  
<sup>31</sup> Traces of antimony.  
<sup>32</sup> Antimony 0.20%, traces of arsenic and cobalt.  
<sup>33</sup> Antimony 0.12%, traces of arsenic and cobalt.  
<sup>34</sup> Traces of antimony and sulphur.  
<sup>35</sup> Traces of antimony and cobalt.  
<sup>36</sup> Listed as Constantinus, but with the dates 337–361 A. D., indicating that it must be Constantius II. Hammer lists it correctly as Constantius II. Antimony 0.02% and traces of arsenic and cobalt.  
<sup>37</sup> Cited by Mommsen-Blacas and Hammer from Sabatier.  
<sup>38</sup> Traces of antimony.  
<sup>39</sup> Traces of antimony.  
<sup>40</sup> Traces of sulphur.  
<sup>41</sup> Cited by Mommsen-Blacas and Hammer from Sabatier.  
<sup>42</sup> Traces of antimony. Listed by Hammer under Valentinian I alone.  
<sup>43</sup> The analyst is given as Commaille.  
<sup>44</sup> The analyst is given as Commaille.  
<sup>45</sup> Cited by Mommsen-Blacas, Babelon and Hammer from Sabatier.  
<sup>46</sup> Cited from Hammer's listing of the analyses given by Bibra.  
<sup>47</sup> Cited by Mommsen-Blacas, Babelon and Hammer from Sabatier.  
<sup>48</sup> Cited by Mommsen-Blacas and Hammer from Sabatier. Mommsen-Blacas attributes it to Justinian I alone and does not mention the traces of lead.  
<sup>49</sup> The analyst is given as Commaille.  
<sup>50</sup> Cited by Babelon from Mommsen-Blacas.



## EUDOXIA, EUDOCIA, EUDOXIA: DATED SOLIDI OF THE FIFTH CENTURY\*

(SEE PLATE XV, 3-8)

Five years ago, A. Frolov published an article in which separation of the solidi of Eudoxia, the wife of Arcadius, from the coinage of Eudocia, the wife of Theodosius II, was undertaken anew.<sup>1</sup> Frolov gave a brief history of the problem and its treatment by the cataloguers of coins, then stated that solidi with the date IMP XXXXII COS XVII of Theodosius II existed with both names EVDOXIA and EVDOCIA; and finally, having reminded us that solidi bearing VOT XX MVLT XXX (so far as I know these exist only for *Eudocia*) must be referred to the wife of Theodosius II, since the vows named could be only those of Theodosius, he devoted the rest of his paper to a demonstration of the thesis that the long cross on the reverse of the VOT XX MVLT XXX solidi was the very cross which Theodosius sent to Jerusalem in 420 A.D., the probable date of his vicennalian festival. This last portion of his paper is by far its major contribution, and Frolov developed his theme at length, giving the subsequent history of the new long cross type. But on the question of Eudoxia/Eudocia (which here really should be stated conversely, Eudocia/Eudoxia, as we shall see) Frolov evidently showed more understanding of the literary and historical sources than of the coins, for while he pointed out that no significant confusion of the names exists in our historical and literary sources (Eudoxia, with rare exception, being the name given to the wife of Arcadius, and Eudocia, to the wife of Theodosius II), he held that confusion of the names of the two women existed on

\* The paper presented here is a by-product of a longer article on the *vota* solidi of Theodosius II, now nearing completion.

<sup>1</sup> "Numismatique Byzantine et Archéologie de Lieux Saints au Sujet d'une Monnaie de l'Impératrice Eudocie (V<sup>e</sup> Siècle)," *Memorial Louis Petit, Archives de l'Orient Chrétien*, I, pp. 78-94. This article was called to my attention by Professor Albert M. Friend during the 1952 Summer Seminar at the American Numismatic Society.

the coinage and felt that we must ask whether the series of solidi bearing the date IMP XXXXII COS XVII and either the name Eudoxia or Eudocia must not be attributed to the same empress. It is not generally realized that the answer to this question was given us by de Salis almost a hundred years ago in a brief article in the *Numismatic Chronicle* of 1867, "The Coins of the Two Eudoxias, Eudocia, Placidia, and Honoria, and of Theodosius II, Marcian, and Leo I, Struck in Italy." The manner in which the title of this article ends obscures the important fact that the writer dealt with eastern as well as western coinages and had actually produced the skeleton of a numismatic corpus of the time of Theodosius II and somewhat beyond. For our present purpose we need only point out (1) that de Salis' analysis showed that one really must distinguish between the empresses bearing the names Eudoxia or Eudocia, and (2) that being ignorant of or disregarding de Salis' work, cataloguers have not considered the possibility that a third woman Eudoxia, wife of Valentinian III and daughter of Theodosius II and Eudocia, might have been involved in some of this controversial coinage. Style and dates on the solidi of a type shared by Eudocia and Eudoxia with Theodosius II, Pulcheria, the sister of Theodosius, Galla Placidia, his aunt, and Valentinian III, his cousin, prove beyond a doubt, as de Salis discovered, that Eudoxia the Younger was the Eudoxia sharing these issues with the rest of the Theodosian family (PLATE XV, 3-8).

De Salis has not gone utterly unappreciated in recent years. Before the appearance of Frolow's article in 1948, Lodovico Laffranchi, in the course of bringing together the coinage of Licinia Eudoxia, wife of Valentinian III, had not only shown himself aware and appreciative of de Salis' article, but had recognized that Eudoxia had a share in the solidi struck by her father in the East for members of his family in East and West and bearing the date IMP XXXXII COS XVII.<sup>2</sup> The attribution of the Empress' portion of this series particularly interested Frolow, and in trying to solve the seeming mystery or confusion of these coins, he, like many others, gave no thought to the second Eudoxia, granddaughter of Eudoxia the Elder and wife of Valentinian III. By accepting Laffranchi's conclusions, Oscar Ulrich-Bansa

<sup>2</sup> "Nuovo Aureo di Licinia Eudossia e il Corpus Numismatico di Questa Augusta," *Rassegna Numismatica*, XXVIII (1931), pp. 251-6.

has recognized the correct attribution of these eastern solidi to Eudoxia the Younger.<sup>3</sup> It seems high time that there be more widespread acquaintance with the results reached by de Salis and Laffranchi, and I feel especially bound to bring their work into greater prominence since before my own acquaintance with their articles I had independently, as a result of working with photographs of coins, assigned the IMP XXXXII COS XVII solidi struck in the name of Eudocia to the wife of Theodosius II and those struck in the name of Eudoxia to the daughter of Eudocia and Theodosius II, the wife of Valentinian III from 437 A.D.<sup>4</sup> As a result of these several independent analyses one must answer to Frolov that there exists on the IMP XXXXII COS XVII solidi no confusion of names or empresses, and that the coins are in all probability more accurate in the use of names than other documents.

In the general eagerness of numismatists to distinguish the coinage of the wife of Arcadius from the coinage of the wife of Theodosius II, then, the third woman, Eudoxia the Younger, granddaughter of Eudoxia the Elder and daughter of Eudocia and Theodosius II, has not been taken into account. Eudoxia the Younger was lost to those interested in the East (Sabatier, Tolstoi, Goodacre) because as wife of Valentinian III she was considered western, and those chiefly interested in the West (Cohen; cf. Eckhel, vol. 8, p. 184) had no notion that the eastern coinage bearing her name might possibly be hers. And Laffranchi's recent article in the *Rassegna Numismatica*, has, like de Salis' work gone unappreciated, so that our catalogues persist in perpetuating erroneous attributions. Not only have the correct attributions already been published by de Salis and Laffranchi, but they have been accepted by Ulrich-Bansa in an article the chief purpose of which was to bring to light not solidi, but silver and small bronze of the same neglected Empress, Eudoxia the Younger.<sup>5</sup> Laffranchi's article was purely numismatic in this case; Ulrich-Bansa's showed and demanded full appreciation of the historical background.

<sup>3</sup> "Note sulle Monete dell'Augusta Aelia Licinia Eudoxia," *Numismatica e Scienze Affini*, I (1935), pp. 25-31.

<sup>4</sup> For the evidence on the marriage of V. and E. see Pauly-Wissowa, *Realencyclopaedie*, vol. VII-A, 2 (1948), s. v. *Valentinianus III*, col. 2235; also vol. VI, s. v. *Eudoxia* (2), col. 925.

<sup>5</sup> See note 3.

Historical background, as well as numismatic analysis, can be shown not only to substantiate attribution of IMP XXXXII COS XVII solidi to both Eudocia and Eudoxia, mother and daughter, but it may well explain why the solidi exist in the proportions the catalogues seem to indicate.

But first, let me say that, regardless of the title of this paper,<sup>6</sup> we shall deal here only cursorily (see pp. 133, 141) with the elder Eudoxia, wife of Arcadius, for the point to be made in this paper concerns the latter part of the reign of Theodosius II and the reign of Marcian — in other words, the period when Valentinian III, husband of Eudoxia the Younger, was reigning in the West. Valentinian had married his cousin Eudoxia in 437, and she had been made Augusta in 439.<sup>7</sup> Since Valentinian died in 455, solidi of Eudoxia the Younger would under ordinary circumstances fall in the period 439—455 A.D. The solidi with the date IMP XXXXII COS XVII fall within this period, as we shall now see.

The solidi bearing the legend IMP XXXXII COS XVII were struck, as we have said, for Theodosius II (PLATE XV, 4–5), his sister Pulcheria, his aunt Galla Placidia, a Eudocia (PLATE XV, 6), Valentinian III, and a Eudoxia (PLATE XV, 3, 7). The date, while being an oddity for the times,<sup>8</sup> can safely be placed in the year 443 for the following reasons. “IMP XXXXII” can only mean “the forty-second year of Theodosius’ reign (forty-second imperial year)” which was 443/4 counting from January 10, 402, when Theodosius became Augustus.<sup>9</sup>

<sup>6</sup> The reason for including the first Eudoxia in the title is of course to emphasize the point that three women are concerned in the coinage of this period and that wherever a Eudoxia is mentioned, we must decide whether the grandmother or the granddaughter is meant. We can be sure that Eudocia, the daughter of the elder Eudoxia and mother of the younger, is not involved.

<sup>7</sup> For references to the evidence, see Pauly-Wissowa, the first article cited in note 4, col. 2237.

<sup>8</sup> It was previously discussed, but perhaps not in such detail as here, by Laffranchi, “Appunti di Critica Numismatica. II. Il medaglione aureo di Teodosio II,” *Numismatica* (Rome), VIII (1942), p. 42 (COS VII for XVII), and O. Ulrich-Bansa, (above, note 3), p. 25. In my forthcoming paper on the vota coinage of Theodosius II, “A New Solidus of Theodosius II and Other *Vota Solidi* of the Period,” this date is discussed in relation to that co nage.

<sup>9</sup> The importance of counting the forty-second year from 402 was pointed out in another connection by Bury, *History of the Later Roman Empire*

Theodosius' seventeenth consulship began January 1, 439, and lasted until January 1, 444.<sup>10</sup> The mention of COS XVII does not permit us to extend the date on the coin into 444, when COS XVIII began, and consequently only the year 443 is a correct interpretation of the *total* date (imperial acclamation and consulship) on the coins. Support of our dating is provided by the existence of very rare solidi (called to my attention by Philip Grierson; see *Numismatique Listy*, 1947, p. 65 and PLATE XV, 8 of this article) of Theodosius with the legend IMP XXXXIIII COS XVIII (= Jan. 10, 445–Jan. 9, 446).<sup>11</sup> The date 443/4 sometimes given<sup>12</sup> fails to take into account the fact that Theodosius entered upon a new consulship (XVIII) in 444. Our date is then established and this is very important in detail as well as in general, as we shall now see. For solidi with the legend IMP XXXXII COS XVII and the name of Eudocia seem to be compara-

(London, 1889), p. 134, note 2 and 1931, p. 235, note 5. If it were valid to count from the date of Th.'s birth, for which there seems no justification, the year 442 would be April 10, 442 — April 9, 443. In any case, 439 is impossible; cf. note 12.

<sup>10</sup> The evidence is chiefly from the chronographers (see Mommsen's *Chron. Min. passim*); for references to them and other sources for these and other dates see the articles in Pauly-Wissowa cited above.

<sup>11</sup> Here the interpretation of the date is dependent upon the imperial acclamation, since COS XVIII lasted until the end of the reign.

<sup>12</sup> The date given by A. Voirol, "Münzdokumente der Galla Placidia und ihres Sohnes Valentinian und Versuch einer Chronologie der Münzprägung unter Theodosius II (408–450)," *Verhandlungen der Naturforschenden Gesellschaft in Basel*, LVI (1945), cannot be accepted, for 439 is but the first year of that period in which Theodosius could use the title COS XVII and the acceptance of 439 as the date of issue requires that IMP XXXXII be ignored.

The curious inconsistency of dating and the inaccurate statements about the details on the coins in the footnotes on pp. 227 (note 3) and 230–1 (note 5) in vol. I of the 1931 edition of Bury's *History of the Later Roman Empire* are difficult to understand. In the 1889 edition there was no second note contradicting the excellent note on p. 134 (note 2). On page 227 in note 3 of the 1931 ed. 439 A. D. is called Th.'s forty-second year; in note 5 on pp. 230–1 (note 2 on p. 134 of the 1889 ed.) the dating is correct, yr. 42=443 A. D. And is the distinction between the IMP XXXXII COS XVII solidi of Emperor and Empress (Roma on the one type, Constantinopolis on the other, the latter type only said to have the prow) correct? The description of the reverse type in note 5 on page 231 as a "seated Victory holding a cruciger globe," is unfortunate, since history teachers who make use of this book for their classes are not likely to be sufficiently informed on coin types to know where Constantinopolis, where Victory, appears.



tively rare, and those with the name Eudoxia much more common.<sup>13</sup> Their close relation from a technical point of view is shown by the fact that in one case, at least, they share a common reverse die (PLATE XV, 6 and 7).<sup>14</sup> We have here on these solidi rather than a free use of either EVDOCIA or EVDOXIA for a single empress, a change in mint policy which evidently involved an earlier cessation of issues for Eudocia, the wife of Theodosius, and the beginning or continuance of a more prolific issue of coins for Eudoxia, their daughter, wife of the western Emperor, Valentinian III. This situation fits historical events and makes them clearer. For not merely do these solidi make more comprehensible the relations of Theodosius and the two Empresses at this time, but they enable us to define more accurately than heretofore the date of Eudocia's second departure for Jerusalem, and they suggest an increase of attention paid to her daughter Eudoxia, the western Empress, by her father's court at Constantinople. Clearly, in the year 443, the year of our solidi, the mint was neglecting Eudocia while paying court to Eudoxia, and this suggests that the year 443 was the year Eudocia left the imperial capital for Jerusalem, even though the quarrel with Theodosius which led to her departure might have taken place in 442.

That Eudocia's departure for Jerusalem was the result of an accumulation of disagreements between her and Theodosius rather than of the fabulous career of the Phrygian apple of Paulinus,<sup>15</sup> is clear from Theophanes' account of events just before her departure.<sup>16</sup>

<sup>13</sup> These solidi seem to be most common for Theodosius and Pulcheria (see note 23), which is not surprising. We have located illustrations of eight specimens of Eudoxia, two of Eudocia. Sabatier and the *Ratto Catalogue* of 1930 listed the type only for Eudoxia. Tolstoi has a piece in Eudocia's name (Plate 6, 86); Goodacre apparently knew the type for Eudocia, cf. p. 35. To judge from Frolov's words on p. 80 of his article (see note 1), the *Cabinet des Médailles* has only specimens of Eudoxia for the IMP XXXXII COS XVII type, especially since F. drew his knowledge of the type in the name of Eudocia from Tolstoi.

<sup>14</sup> J. Schulman Sale Catalogue, June 5, 1930, lot 686 (Eudocia), and Florange – Ciani Sale Catalogue, April, 1925, lot 582 (Eudoxia), if not from the same reverse die, from dies so similar as to provide evidence of the same value as a single die.

<sup>15</sup> Pauly-Wissowa, s. v. *Eudocia* (1), cols. 907, 909–10.

<sup>16</sup> *Scriptores Historiae Byzantinae* I, p. 157 (88); Migne, *Patr. Gr.* 108, p. 263 (88).

Although O. Seeck effectively eliminated the dates 440 and 444 as possible years for Eudocia's departure and decided on 442 or 441 A.D.,<sup>17</sup> the year 443 seems more accurate from what the coins have to tell us. And though Byzantine sources are not in agreement,<sup>18</sup> there is some substantiation for this date from Byzantine history, for Cedrenus tells us that the quarrel between the Emperor and Empress took place in the forty-second year of the reign,<sup>19</sup> in other words, within the year January 10, 443 — January 9, 444.<sup>20</sup> It has been shown, as we have said, that sources which place the event in 440 or 444 can readily be discounted; but Cedrenus' statement meets notable though slight contradiction in Theophanes' *Chronographia*, where the year named (the Constantinopolitan episcopate of Anatolius and the Antiochene episcopate of Maximus — *Anno Mundi* 5942) is 442 A.D.<sup>21</sup>

<sup>17</sup> O. Seeck, *Geschichte des Untergangs der Antiken Welt*, VI (Stuttgart, 1920), p. 247, assumes her presence there earlier and in Pauly-Wissowa, *s. v. Eudocia* (I), col. 908, he has placed her departure in the period 441–2. The argument seems to be that the *praeфекtus praetorio Orientis*, Cyrus, one of the Empress' protégés, had not fallen in the summer of 441, but had by Aug. 21, 442, when his successor is mentioned (*Cod. Iust.* II, 7, 9), and there is a passage in Suidas (*s. v. Κύρος*) which says that Cyrus' fall was precipitated by the Empress' departure. It seems not impossible that Cyrus fell before rather than after the departure of the Empress.

<sup>18</sup> While Theophanes (*Chron.*, ed. C. de Boor, Leipzig, 1883, *SHB* I, p. 157; Migne, *Patr. Gr.* vol. 108, col. 264) places the event in 442, *Chron. Pasch.* gives 444 A. D., the same year given by the chronicle of Marcellinus Comes for the assassination of Eudocia's advisers in Jerusalem. I find no date in Malalas (*SHB*, pp. 356–8; Migne, *Patr. Gr.* vol. 97, cols. 532–3) or Zonaras (*SHB*, III, 1897, pp. 110–111, the text of Dindorf's 1870 ed. vol. 3, 13, 23, P. 44 C; Migne, *Patr. Gr.* vol. 134, col. 1193). Nicephorus Callistus (*Eccl. Hist.*, *SHB*, 14, 23; Migne, *Patr. Gr.* vol. 146, cols. 1129–32) has the two trips of Eudocia to Jerusalem collapsed into one. Cedrenus (*σύνοψις ιστοριῶν*) places E.'s departure in the forty-second year of the reign, *SHB*, I, p. 601; Migne, *Patr. Gr.* vol. 121, col. 653.

<sup>19</sup> See note 18.

<sup>20</sup> Yr. 1      Jan. 10, 402      — Jan. 9, 403.  
      Yr. 2                      403                      404.  
      Yr. 12                    413                    414.  
      Yr. 22                    423                    424.  
      Yr. 32                    433                    434.  
      Yr. 42                    443                    444.

Bury rightly called attention to the importance of figuring the forty-second year from 402 A. D. (*History of the Later Roman Empire*, 1889 ed., p. 134, note 2; 1931 ed., p. 230, note 5).

<sup>21</sup> See note 16.

The simplest explanation for this divergence may be that the quarrel took place in 442, the departure of Eudocia in 443. In any case, the Empress' coinage appears to have dwindled in the course of that year, if indeed it ever got off to a good start. Further evidence of the quarrel between the Emperor and Empress is provided by the destruction of the two advisers who accompanied Eudocia to Jerusalem and the retaliating murder of the imperial envoy Saturninus in 444 A.D. These events tend to support the date 443 for Eudocia's journey. What we learn from the coins with the reverse legend IMP XXXXII COS XVII may be indicated as follows in a three-point outline which builds up to a climax in point 3:

1. Eudocia is represented in the issue; her influence at court therefore still exists.
2. The coins must be dated in 443, — January 10, 443 – December 31, 443, to be precise in respect to IMP XXXXII and COS XVII strictly interpreted as they must work together: therefore Eudocia's position is still officially sound in this period.
3. The coins of Eudocia with this date are rare, those of Eudoxia much commoner, and this suggests an early cessation of Eudocia's issues and the continuance (possibly the beginning) of the more plentiful solidi of Eudoxia, the daughter. A cessation of Eudocia's issues, suggested by their scarcity, must be due to some special circumstance. Eudocia's departure for the Holy Land in dissent with the conduct of the court at Constantinople will explain the scarcity of her solidi. Both the existence and the scarcity of IMP XXXXII COS XVII solidi of Eudocia in the year 443, then, support the date 443, elsewhere attested, as the year of the Empress' departure from Constantinople. The murder of her advisers, Severus and John, by an imperial official in 444 and Eudocia's destruction of that official show that the Empress was in Jerusalem by that year.<sup>22</sup>

So much for the scarcity of the dated solidi of Eudocia. Knowledge as to exactly when solidi with the legend IMP XXXXII COS XVII

<sup>22</sup> Marcellinus Comes, *Chron.* 444, 4. Cf. the mention of these men by Theophanes (note 18 for the reference), and of the death of the Emperor's envoy Saturninus at the hands of Eudocia by Priscus Panites (*Frag. Hist. Gr.*, Paris, 1868, 4, p. 94).

began to be struck for Eudoxia, the daughter of Eudocia, must remain a matter of conjecture perhaps forever. Since Eudoxia's husband Valentinian III as western Emperor shared the issue, it is probable that solidi were struck for both from the beginning of the series, particularly since there is evidence to show that the issue was primarily for western usage. For most of these solidi with the legend IMP XXXXII COS XVII, though of Constantinopolitan style, bear the western "COMOB" not the Constantinopolitan "CONOB" in the exergue.<sup>23</sup> Evidence of the depleted state of the western imperial treasury is specific for the year 444,<sup>24</sup> and so the need for money in the West must have been great in the year of our solidi — 443 (IMP XXXXII COS XVII). In trying to meet the need of the West for gold coin, the court of Constantinople appears to have struck more solidi for Theodosius himself and for his daughter Eudoxia than for Eudoxia's husband, the western Emperor, or his own wife Eudocia. One might well suppose that this imbalance of the issues can be explained simply by assuming that Theodosius preferred to pour into the West solidi bearing predominantly his own portrait and name and his daughter's. If so, the scarcity of Eudocia's solidi would need no other explanation, and we might discount the significance of her departure from Constantinople. We should simply assume that Theodosius was exalting himself, the provider of the issue, and his

<sup>23</sup> This is true also of the solidi of Theodosius II bearing the legend VOT XXX MVLTT XXXX. This significance of what I had supposed to be merely careless engraving was pointed out to me by Philip Grierson. A survey of coin illustrations shows the following distribution of COMOB and CONOB solidi among the various members of the imperial house.

	COMOB	CONOB
Theodosius II	26	3
Eudocia	2	
Pulcheria	14	1
Galla Placidia	3	
Valentinian III	4	1
Eudoxia	5	3

This note will, I hope, draw out evidence which either corroborates or clearly refutes what I say in this paper. In compiling the above list an effort was of course made not to include more than one photograph of the same coin and to be sure that from the photograph one could really be sure what was on the coin — CONOB or COMOB.

<sup>24</sup> For the evidence, see Pauly-Wissowa, *Realencyclopaedie*, vol. VII-A, 2 (1948), s. v. *Valentinianus III*, cols. 2242–2243.

daughter, the wife of his debtor in the West, at the expense of both Valentinian III, his son-in-law, and his (Theodosius') wife Eudocia. But, as we have shown earlier in this paper, the date of the solidi is so significant for family and court affairs in the East that interpretation of the scarcity (though not necessarily the *comparative* scarcity) of pieces of Eudocia only in the light of the financial status of the West would be to ignore the almost certain effect on her coinage of her departure for Jerusalem under conditions of estrangement from the court of Constantinople. And so, while the number of Eudoxia's solidi may be due to the fact that the issue was meant chiefly to supply the West, where her husband reigned, the scarcity of her mother's solidi, since Theodosius' were plentiful, must still be sought in her departure from the eastern capital.

It is possible, of course, that the coinage of the western rulers or the solidi for Eudoxia began to be struck or began to be struck in greater numbers when her mother Eudocia left Constantinople. These solidi of Eudocia and Eudoxia are close enough in time to share not only a common style but they seem also to have shared at least one reverse die (see p. 136 and PLATE XV, 6 and 7.) The solidi of Eudoxia being more plentiful were either issued in greater numbers or lasted longer. The chances are that Eudocia's pieces were scarcely off the dies when she left Constantinople and thereafter the issues that would have been hers were provided with obverses of her daughter. In that case Eudoxia's solidi, apparently exceeding in numbers those of Valentinian III, too, probably took the place of her mother's. Eudoxia was now potentially the first woman in the East as well as in the West, for if the two parts of the Empire were ever to be united again, as Theodosius hoped they would be, they would have to be united under a son of Eudoxia and Valentinian. Though this imperial couple had produced only two daughters and no son, his daughter Eudoxia must have taken on new importance for Theodosius in this period of estrangement from his wife, an importance which our coinage may well show.

It is interesting here to look ahead and to note that the eastern coinage of Eudoxia the Younger did not cease with the death of her father, but had a share in Marcian's "long cross" coinage with the legend VICTORIA AVGGG, for this is precisely where the solidus of

Eudoxia attributed to Eudoxia the Elder (wife of Arcadius and grandmother of Eudoxia the Younger) on Tolstoi's Plate 4, no. 141, belongs. Valentinian III was as adamant of recognition of Marcian in the East as Theodosius II had been of Constantius III, husband of his aunt, Galla Placidia, in the West; and for over a year and a half Marcian evidently went unrecognized by that branch of the Theodosian House,<sup>25</sup> though he was now nominal husband of Valentinian's aunt Pulcheria. Perhaps it was during this period that Marcian struck solidi of Valentinian and Eudoxia in his standard series of solidi — the VICTORIA AVGGG coins with the long cross reverse, hoping for a counter-gesture of recognition. In any case, the eastern issues of the western Theodosians continued under Marcian. This emperor reverted to Theodosius' long cross type for all in whose honor he struck, but he abandoned the vota legend previously associated with the long cross type for the general VICTORIA AVGGG, a legend already in western usage on other types of solidi. This simple, single-type solidus was his gold "stater," for apart from the extraordinary gold piece celebrating his marriage to Pulcheria,<sup>26</sup> he seems to have struck no other solidi, so that we have none suggesting votive festivals or bearing more specific dates in the manner of our IMP XXXXII COS XVII pieces. Except for a few cases of imitations or hybrids of the solidi we have been discussing,<sup>27</sup> these pieces dated in accordance with an old fashion, but with new meaning, appear to have been an isolated phenomenon of the declining years of the House of Theodosius.

ALINE ABAECHERLI BOYCE

<sup>25</sup> *Ibid.* col. 2252.

<sup>26</sup> Macdonald, *Coin Types*, p. 234.

<sup>27</sup> Tolstoi, Pl. 9, 42 (Leo I). Ulrich-Bansa (above, note 3 of this paper), p. 25, mentions Marcian as among those for whom coins with this date were struck. It would seem that such coins must be hybrids or imitations.

## KEY TO PLATE

## IMP XXXXII COS XVII

- |  |              |   |
|--|--------------|---|
| 3. EVDOXIA, daughter of Theodosius II<br>and Eudocia, and wife of Valentinian III. | ↓ 4.0 grams  | Fecht Coll.<br>(on deposit at<br>ANS).  |
| CONOB  |              |   |
| 4. THEODOSIUS II.  | COMOB ↓ 4.4  | ANS (Durkee).   |
| 5. THEODOSIUS II.<br>("THEOOOS VS," imitation)                                     | COHOB ↓ 4.41 | ANS (Field).  |
| 6. EVDOXIA, wife of Theodosius II.   |              | Schulman Sale<br>Cat., June 5,<br>1930, lot 686.  |
| COMOB  |              |   |
| 7. EVDOXIA, daughter of Theodosius II<br>and Eudocia, and wife of Valentinian III. |              | Col. Allotte de la Fuÿe<br>Coll. Sale, Florange-Ciani<br>Sale Cat., April 28/9, 1925,<br>lot 582. |
| COMOB  |              |   |

Nos. 6 and 7 are arranged for comparison of reverse dies.

## IMP XXXXIII COS XVIII

- |                  |   |
|------------------|---|
| 8. THEODOSIUS II | <i>Numismatique<br/>Listy, 1947,<br/>p. 65.</i> |
|------------------|---|

## PISAN COINAGE AND THE MONETARY DEVELOPMENT OF TUSCANY, 1150-1250\*

(SEE PLATES XVI-XVII)

In the monetary and numismatic history of Tuscany perhaps no other period so clearly marks a transition between two eras as that of the century 1150-1250. Before 1150, the monetary system of Tuscany remained essentially what it had been under the later Carolingians. One city, Lucca, was striking one type of coin, the silver denarius. By 1250, Lucca's monetary hegemony had long since dissolved with the appearance of rival mints at Pisa (by 1151), Volterra (by 1165), Siena (by 1193), Florence (by 1237) and Arezzo (about 1237).<sup>1</sup> This new diversity brought new problems. The old

\* The research in the coins necessary for the compilation of this paper was accomplished while attending the Summer Seminar in Numismatics at the museum of the American Numismatic Society in New York. The author wishes to express his thanks to the American Numismatic Society for the opportunity of attending the seminar and the staff of the museum for their generous assistance in working with the coins.

<sup>1</sup> Full titles to all works cited in the notes can be found in the Bibliographical Guide at the end of the article.

The dates given for the origin of the respective mints are with the exception of Arezzo the earliest dates in which the actual utilization of the money in question can be ascertained. The dating of the beginnings of mints from imperial charters or statements in chroniclers is always dangerous and may give an entirely false idea of the monetary development of a period. Thus Villani, *Cronica di Giovanni Villani*, ed. Magheri (Florence, 1823), I, 229, assigns 1182 for the appearance of the silver florin, a date at least fifty years too early. Of course, the dates we have given here may be shown to be too conservative, but at least they serve as definite *termini ante quos* for the origins of the respective mints. The earliest appearances of the various issues seem to be as follows: for Pisa, *Regestum Pisanum*, p. 290, no. 423; for Volterra, document cited by Lisini, *Rivista Italiana di Numismatica* XXII (1909), 259 and Davidsohn, *Forschungen* III, p. 7, no. 23; for Siena, *Regestum Senense*, p. 141, no. 361; for Florence, document cited by Davidsohn, *Forschungen* IV, 318. My date of 1237 for the coins of Arezzo is a rough approximation based upon a comparison of the Arentine grossi with the Florentine. Certain Arentine grossi are stylistically very similar to the earliest of the five types of silver florins, particularly in the use of a straight line rather than a series of dots to mark out the halos, and hence appear to be almost contemporaneous with them.



monetary unity of Tuscany was shattered and in an effort to rebuild it, the cities provided European history with the earliest known examples of the monetary convention.<sup>2</sup> Especially significant are the changes in the coins themselves. During this century, the mints of Tuscany broke permanently with the Carolingian monetary system based upon a single minted coin. They sought to introduce alongside the now debased denarius an improved silver coin and crowned their efforts with the minting of the silver grosso. With the creation of a better system of silver coinage, they helped lay the basis for the striking of the gold florin in 1252, which is of such basic importance in European history. By 1252 Tuscany had produced a monetary system which in its general features remained unaltered in the later Middle Ages.

The coins themselves provide the acutest measurement of the dimensions of these reforms. Upon their coins the cities lavished all the originality and workmanship which dawning civic pride and self-consciousness could inspire. From its origin in 1193 the mint of Siena abandoned the monotonous and meaningless imperial monogram. By 1240, spiritual patrons—the Virgin in Pisa, Volto Santo in Lucca, St. John in Florence, St. Donatus in Arezzo—gazed forth serenely from fields once dedicated to the empire.<sup>3</sup> On Pisan coins, the figure of the Virgin is a minor masterpiece entirely worthy of the city, then the artistic capital of Tuscany. Florentine silver already bore that staid St. John, which, when transferred to a nobler metal, became the most sought-after portrait in Europe.

But the improvement was not only esthetical. New coin types were introduced. In characterizing this aspect of the reform, two coins of Pisa, now in the museum of the American Numismatic Society in

<sup>2</sup> The convention of 1181 between Lucca and Pisa is apparently the earliest in European history and certainly the first of which the text has been preserved for us. For the text of this convention, see Carli-Rubbi, *Delle Monete* II, 150 ff. This convention antedates by seventy years the Tuscan monetary convention of 1255. For negotiations involving the latter convention, see Davidsohn, *Forschungen* III, 12 ff. (nos. 38, 41, and 43).

<sup>3</sup> By 1250, only Lucca and Pisa retained on their coins any reference to the empire. Lucca preserved the monogram of Otto IV and Pisa that of Frederick I as those emperors had accorded special privileges to the respective cities. However, even here the monograms were transferred from the obverse, where they had previously stood, to the reverse to make room for the images of the patron saints.

New York, are particularly eloquent. The first of these coins, a *denarius minutus* or petty denier, weighs approximately 0.7 grams with a silver content of less than 20 per cent. The second, a grosso, boasts over double that weight (about 1.8 grams). More important, its silver is as pure as the technology of the time could make it. In spite of the striking differences between them, these coins may safely be dated, as we shall see, approximately fifty years apart (ca. 1185 to ca. 1235).

Considered as an economic phenomenon, the introduction of the silver grosso foreshadows that of the gold florin in 1252. Like the florin, the grosso represents an attempt to produce a coin more capable of meeting the economic needs of the expanding economy of the Italian cities. But the history of the grosso, unlike that of the florin, remains an unexplored field. To be sure, the full details of that history—at least for the years after 1200—are probably locked in the unpublished material of the archives of Tuscany. Nevertheless, the combination of the evidence already published plus the information provided by the coins themselves amply justifies this first endeavor to examine the introduction of the silver grosso and the steps which led up to it.

During the period 1150–1250 one other monetary development took place which likewise has attracted little attention: the rise to prominence of the mint of Pisa. Too long has Pisa been the victim of a tradition as old as Italian numismatic studies — a tradition which so subordinated Pisan coinage to that of Lucca as to concede it scant importance of its own. Of all the mints of Tuscany, only Pisa has attracted no special study. The sources, however, tell a different story. Born about 1150 as a close imitation of Lucchese money, Pisan coinage expanded rapidly throughout Tuscany, largely at the expense of the Lucchese. By the early thirteenth century, the unwanted offspring had supplanted its parent as the most important monetary system in Tuscany. Developments interesting enough in themselves, the reforms of Tuscan silver and the expansion of Pisan coinage likewise provide a vivid and valuable commentary on the broader economic problems of a century of growth.

Tuscan coinage, like much else in medieval Italy, begins with the Lombards. After those fierce barbarians had poured down the peninsula to wrest central Italy from the Empire's failing grasp, they

proudly set up mints in Lucca, Tuscany's capital, and Pisa, her only port. In these two places the Tuscan moneyers dutifully paced off the succession of Lombard dukes. They continued even after the Carolingian conquest gave them new names to honor. But the descending darkness of the following age took its toll. The lack of coin survivals, the silence of documentary sources, the complete dependence on foreign issues in local transactions announce that sometime in those obscure years Pisa's mint had given up the striking of money. Not so with Lucca. For her, coins and documentary evidence speak of unbroken activity. They also tell how Lucca, stubborn enough to maintain her own mint, was likewise supple enough to model it on the dominant monetary system of north Italy: that of Pavia. During the age of the Ottos, the two cities struck coins equal in weight, in purity, in value, and all but identical in appearance.<sup>4</sup> But Lucca could not emulate the prestige as easily as the appearance of the Pavese money. Well into the twelfth century the issues of the great Lombard capital remained dominant even in central Italy. Around 1050, however, the seed which Lucca bore so long was germinating. Factors still largely unexplained, but among which the breakup of the Italic kingdom and the favor of the Church are surely to be listed, led to the displacement of the Pavese money by the Lucchese as the common currency of central Italy. From 1050 to 1150 all surviving documents, from Lucca herself, Pisa, Siena, Florence, Arezzo, Volterra and the monasteries of Camaldoli and Santa Maria di Montepiano pay homage to the supremacy of the Lucchese coins. The papal *Liber censuum*, drawn up in 1193 but reflecting earlier traditions, again and again proclaims that when central Italy paid its tithes in silver, it used the coins of Lucca.<sup>5</sup> Florence during this period carried her silver to Lucca to be minted, willing to tolerate the stamp of a foreign city in return for the prestige of a successful coinage.<sup>6</sup> Might not other cities have done

<sup>4</sup> Massagli, *Della zecca e delle monete lucchesi*, p. 28. As Massagli points out, the Pavese and Lucchese coins were at this time so similar that, were it not for the inscriptions, they would have been indistinguishable.

<sup>5</sup> Ed. Fabre; consult the lemma *lucensis moneta*. Pfaff, "Einnahmen der römischen Kurie. . .," p. 100.

<sup>6</sup> Santini, *Documenti . . . del comune di Firenze* I, p. 22. In the treaty of 1184 the Lucchesi guarantee to the Florentines one half of the profits of the metal which the latter take to Lucca to be minted.

likewise? Beyond Tuscany, Bologna, Padua, Rimini, Gubbio used Lucchese money and that money was far from unappreciated even in distant Genoa.<sup>7</sup> All this success gave Lucca an intense pride in her monetary stature and an intense zeal in defending that stature against every threat.<sup>8</sup>

Thus in 1150, Tuscany possessed a common currency whose prestige extended beyond its own borders. Such a situation seems ideal in an age of expanding trade. Yet the impact the changing commercial world produced was rather to dissolve Lucca's century-old hegemony. Why other cities were eager to challenge the Lucchese monopoly of a profitable activity needs no explaining; why that challenge was so successful is not as clear. To change the monetary habits of a people means to overcome a special reluctance, an inertia unknown in almost every other phase of life. Yet by 1200, almost every Tuscan town had rejected its traditional currency, the money of Lucca, in favor of the upstart currency of Pisa. This numismatic shift, itself a rustle on the surface, betrays the presence of profounder changes in the social depths.

For Italy, the great Commercial Revolution of the Middle Ages meant two things: an increased population and increased commercial activity at home, and an amazing expansion overseas to the South and East, and overland to the North and West. For Italy's monetary systems, the Commercial Revolution likewise meant two things: more people were using money at home, and the existing money supplies were being spread thin over the greatly enlarged commercial world of the Italians. The hunger for more coins must have been enormous. To be sure, the development of credit institutions, the increased velocity of circulation, the rising price of silver which tended to maintain the value even of debased coins, helped dull its edge, but the appetite remained. Two ways could be used to satisfy it: the old money could be debased and more coins secured from a given quantity

<sup>7</sup> Massagli, pp. 35–36 for a list of the monetary relations of Lucca with these cities of central Italy.

<sup>8</sup> For the pride Lucca felt in her mints, see *Die Annalen des Ptolomeus von Lucca in doppelter Verfassung*, ed. Bernhard Schmeidler, MGH SS., N. S. III. Cf. especially the entry for 1182 (76, 17ff.) where Tholomeus describes the prestige of Pavia and of Lucca, and attributes Lucca's monetary predominance in central Italy to the favor of the Church.

of silver, or new sources of silver could be opened up. Naturally, the simplest method was the first, and in the eleventh and twelfth centuries the history of all the monetary systems of Italy is a history of continuous and relentless debasement.<sup>9</sup> Of course, this was not entirely the result of a desire to expand the currency. Debasement

<sup>9</sup> For the debasement of the Carolingian denier throughout Europe and its causes in the shortage of silver and the policies of the government mints, see Luschin von Ebengreuth, *Allgemeine Münzkunde und Geldgeschichte des Mittelalters und der neueren Zeit*, pp. 246ff. The fate of Italian coinage is vividly portrayed in the graph constructed by Pfaff, "Einnahmen der römischen Kurie. . .," p. 101. According to this graph, the *lucensis novus* suffered the worst of all Italian coins. The use of the adjective *novus* and *vetus* in regard to the coins of Lucca does not mean she consciously introduced a new denomination. The *denarius novus* of Lucca, frequently called *novus et brunus*, was simply the increasingly debased Carolingian denier. It must be sharply distinguished from the *Pisanus novus* discussed below, which represented a new denomination of greater value than the old denier. That the *Lucensis novus* was not consciously intended to be a new denomination is conclusively proved by the fact that a distinction between old and new denarii was never made in Lucca herself or even in neighboring localities. The *Regestum Lucanum* apparently knows nothing of them (unfortunately the work is not indexed). The term *denarius novus* certainly never appears in the well-indexed *Regestum Pisanum*, and out of hundreds of citations of Lucchese money in the *Regestum Camaldense* it is used but once, but then outside of Tuscany, in Parma. The situation is analogous to that of the Pavese denarius, which in the territory of Pavia herself referred to the debased coin actually being minted while in central Italy the same term at the same time meant the old, good denarius. For the different meanings of *denarius pavense* inside and outside of Lombardy, cf. V. Capobianchi, "Il denaro pavese ed il suo corso in Italia nel XII secolo," *Rivista Italiana di Numismatica* IX (1896), 21-60. Cf. also *Le carte del monastero di S. Maria di Montepiano*, p. 61 where in 1196 the denarii of Lucca and Pavia are equated, an impossibility on the basis of the coins actually being struck. The monastery was evidently using the traditional values of the two denarii. The different attitudes to the debasement of the coinage assumed by the various parts of Italy is an intensely complicated problem in which political, geographical, and economic factors all play a role. One explanation, however, may be that in areas far removed from the mint people could not easily have their good money recast into or exchanged for more coins of the debased variety. Moreover, most people in these remoter districts were not sufficiently wealthy to hoard their small capital according to Gresham's law. Hence, to protect themselves, they introduced the distinction between new and old denarii unknown to the mint itself. The distinction may also have arisen in an attempt to prevent the fall of land rents by making the older coin values a money of account, but if this were true we would expect to find the distinction more prevalent even in the neighborhood of the mint. At any rate, this problem embraces both the Pavese and Lucchese coinage and will only be answered by a reconsideration of their respective histories.

simply for the profits involved is almost a constant factor in the history of mints. At any rate, to these various forces the money of Lucca fell complete victim. Contemporaries have this to say of its fate:

—in a document from Lucca herself dated 1195 one Forese is to pay for a piece of land “sixty pounds, of good money, which is more than thirty years old, or twice as much of the present money.”<sup>10</sup>

—in 1200, Pope Innocent III in a canonical ruling stated that Church tithes were not to be paid in debased currency, but rather in present-day equivalents of the traditional amount. The motivation for such a ruling came, we are told, from the fact that forty years ago three denarii of Lucca were worth one of Pavia, but now six of Lucca are the equivalent of one of Pavia.<sup>11</sup>

What had happened to the money of Lucca? The first document shows that its value had dropped in half in the last thirty years. The second confirms this and adds that now it took six Lucchese denarii to equal one of Pavia. But as late as the year 1000 the money of Lucca had been on a par with that of Pavia. The Lucchese denarius had dropped to one-sixth its former value. Recent research in the *Liber censuum* has further established that in the downward tumble of Italy's monies, that of Lucca led the field. Again the coins themselves give voice to the plight of that once proud money. The wretched coin of PLATE VXi, minted by Pisa but equivalent to Lucca's issues, shows a silver content of less than 20 per cent.

The debasement of metallic currency does not, of course, have the same economic effects as the devaluation of modern paper money. Accumulated savings remain unaffected, and if Forese of Lucca had carefully put away his sixty pounds of the “money of thirty years ago,” he was not disturbed by the subsequent fall in Lucchese money. Two groups, however, were not so immune: those who lived on a fixed income, and those who lent money in the expectation of future

<sup>10</sup> *Regestum Lucense*, p. 181, no. 1728, “libros LX, ad bonam monetam, que fuit a XXX annis retro, vel duplum de presenti moneta.”

<sup>11</sup> *Corpus Iuris Canonici*, ed. Friedberg (Lipsiae, 1922), Decretales Gregorii IX, Lib. III, Tit. XXIX, c. 20, *Olim causam*. “... quum ... et per testes tuos sit legitime comprobatum, quod tres Lucenses, qui pro uno Papiensi post mortem ipsius Lotharii solvebantur, quinque vel sex valebant ex illis qui hodie sunt in usu.”

payment. But in the twelfth century only those landowners who collected a fixed monetary payment from their dependents lived on fixed incomes. The monastery of Sancta Trinitas de Spineta in renting some land in 1122 collected its annual census of twelve solidi not in the money of any particular city but rather in solidi "which are circulating the better at the time [of collection]".<sup>12</sup> The use of such a phrase presupposes monetary uncertainty. As for Church tithes, Innocent III strove to make real value, and not a fixed number of debased coins, the basis of Church taxes. Money lenders, or anyone who entered into an agreement calling for future payments, faced the real possibility of receiving back bad money for good. For them, an escape was sought in the insertion into contracts of a proviso by which the lender could demand back his money not in coins but in a stated amount of unminted silver. The popularity of this type of clause is eloquent testimony of the instability of the currency.

The falling silver content of the coins created yet another problem, that of making the larger payments necessitated by the new economy. Even as debasement was a common phenomenon in twelfth-century Italy, so also was the problem of making large payments. However, it is in Genoa, of all Italian cities incomparably the richest in the commercial sources of the period, that the full weight of this problem is illustrated. The use of the phrase *seu valens* in her commercial contracts and especially the use of substitutes for metallic money occur frequently enough to illustrate the insufficiency of the coinage. Small, durable and valuable foreign goods—pepper in particular, brazilwood, incense, indigo, even alum—were used as substitutes for money.<sup>13</sup> The problem must have been equally severe in Tuscany, where the commercial activity of Pisa approached that of Genoa and the accepted currency was even more debased. In 1155 in the territory

<sup>12</sup> *Regestum Senense*, p. 60, no. 163. "XII solidi qui in tempore in comitatu meliores percurrerint."

<sup>13</sup> For substitute money in Genoa, see especially Pier Francesco Casaretto, *La moneta genovese in confronto con le altre valute mediterranee nei secoli XII e XIII*. Atti della società Ligure di storia patria, LV (Genova, 1928), pp. 3–6. The subject is treated in its wider implications by Marc Bloch, "Économie nature ou économie argent: un pseudo dilemme," *Annales d'histoire sociale* I (1939), 7–16.

of Siena a castle was sold for sixty pounds, half the price to be paid in coin and half "in rebus mobilibus."<sup>14</sup> The goods involved, unstipulated as they were, clearly were taken not in preference to but in substitution for metallic money. Pepper also appears in Tuscany as substitute money. The Church of St. Nicholas de Corgneto paid to Rome a yearly tax of one marabotino and two pounds of pepper.<sup>15</sup> In 1173 Pisan ships were paying tariffs in pepper to the little town of Corneto Tarquinia.<sup>16</sup> Perhaps only the survivals of typically feudal traditions, these instances may also reflect the inadequacy of Tuscan money.

Thus, the development of Tuscan coinage during the years 1150 to 1250 is largely the history of attempts to achieve three reforms: the creation of a larger volume of money, of a greater degree of monetary stability, and of a more convenient means of paying large sums.

On August 25, 1151, for the first time in the sources of the period there occurs the phrase "the money of Pisa," and hence it was probably shortly before the year 1151 that Pisa first struck money in her own name.<sup>17</sup> The Pisan mint is so closely connected with the monetary development of Tuscany that its history must briefly be traced.

Pisan money in its earliest documentary appearances is peculiar. It almost never stands alone. Again and again sources make use of the phrase *libras denariorum Pisane vel Lucensis monete*. From this repeated equation the notion arose that the history of Pisan money was written in Lucca. And to be sure, the Pisans were quite conscious of Lucca's time-hallowed prestige as the sole mint of Tuscany. They further knew that in monetary matters, familiarity breeds acceptance. In the following century the chronicler Tholomeus could find in the archives of his native Lucca repeated papal and imperial condemnations of the Pisans as forgers.<sup>18</sup> In 1158, Pope Hadrian, we read,

<sup>14</sup> *Regestum Senense*, no. 211.

<sup>15</sup> *Liber censuum*, ed. Fabre, I, 56.

<sup>16</sup> Antonia Falce, "Documenti inediti dei duchi e Marchesi di Tuscia," *Archivio Storico Italiano* S. VII, Vol. X (1928) 213. "... item accipiunt [Cornetanorum] unusquisque consul de unoquoque ligno unam libram piperis et unam pro vicecomite et aliam pro camerario, que veniunt libras septem per unumquodque lignum."

<sup>17</sup> *Regestum Pisanum*, p. 290, no. 423.

<sup>18</sup> Cf. *Die Annalen des Ptolomeus von Lucca*, ed. Schmeidler, 59, 3; 62, 5; 65, 17; 72, 24; 73, 9 and 75, 9.



forbade all the cities of Tuscany and of Ancona to strike Lucchese money. In 1175 Frederick I condemned the Pisans expressly for striking money in the Lucchese manner. In 1176 Frederick laid Pisa under the ban for again forging Lucca's money. In 1182 Pope Lucius decreed that only the money of Lucca should circulate in Tuscany, Ancona, Compagna, Apulia and Romagna. Moreover, in condemning the Pisans of forgery, the Genoese Caffaro brings all the weight of a contemporary witness into the lists against the Pisans.<sup>19</sup>

To be sure, the Pisans need not suffer without protest the javelins of their enemies. They have their rebuttal. Not one of the explicit condemnations cited by Tholomeus can be confirmed by the registers of papal or imperial documents, and Caffaro as a hated and hating Genoese would be more than eager to believe a Lucchese allegation.<sup>20</sup> Sources from Pisa herself occasionally mention either Pisan money alone or Lucchese alone, suggesting that the two types were distinguishable.<sup>21</sup> The first mention of coins from Volterra, dated 1165, appears as follows: "pounds of good denarii of Volterra or of Pisa."<sup>22</sup> The equation of the two types demonstrates that the Volterranean denarius had been given a value equal to the Pisan and was probably modeled upon it. Again Pisan money may have been distinguishable from that of Lucca, as Volterra apparently chose it, and not the money of Lucca, as the model of their own coins.

However, of this whole burning issue—criminal counterfeit or *bona fide* imitation?—only a few embers remain to warm the interest of modern research. What is both certain and significant is that Pisa's coinage, clearly capitalizing on the prestige of Lucca, clearly, too, was equal to its model in silver content. Its quality and quantity

<sup>19</sup> *Annali Genovesi di Caffaro* . . . , ed. Belgrano and Imperiale II (Rome, 1901), 9, 8 (Anno 1175): "Pisanis vero monetam lucensem quam maliciose cudebant et falsificabant sub iuramenti debito interdixit [imperator] et precepit ne amplius eam cuderent."

<sup>20</sup> Cf. Schmeidler's notes to the various passages in Tholomeus quoted in note 18 above. In the extant papal and imperial documents only general confirmations of the privileges of the Lucchese mint are to be found.

<sup>21</sup> For Pisan money alone, *Regestum Pisanum*, p. 290, no. 423 (1151); p. 343, no. 490 (1166); for Lucchese alone, *ibid.*, p. 348, no. 496 (1170); p. 349, no. 498 (1171); p. 364, no. 529 (1176); p. 385, no. 534 (1179). After 1179, Lucchese money disappears from the *Regestum Pisanum*.

<sup>22</sup> Cited by A. Lisini, *Rivista Italiana di Numismatica* XXII (1909), 257.

enabled it to appear alongside the Lucchese money in almost every place where the latter coinage had formerly prevailed.

From 1181 in the territory of Pisa, and from later dates in other areas of Tuscany, Pisan money begins to stand alone. This newly found independence of Pisan money is undoubtedly connected with a monetary convention of 1181 between Pisa and Lucca.<sup>23</sup> The terms of this monetary convention, which actually forms a part of a general commercial and political treaty, are primarily three: First, the two mints will share their profits equally. Secondly, the money of each city is to be accepted in the territory of the other, though no mention is made of their relation in value. Finally, the moneys are to be in the future clearly distinguishable. Lucca is to continue to strike money in her traditional manner, which is defined as the use of a large "H" (for the Emperor Henry, as the type had become immobilized since the eleventh century); Pisa is to change her coinage (presumably she too had been using the H-type) and inscribe upon her coinage "F" (for Frederick) or "C" (for Conrad). As the clear inference is that the placing of an "F" upon Pisan coinage was an innovation calculated to distinguish it from the money of Lucca, the *denarius minutus* in the museum of the American Numismatic Society may be dated after 1181. The appearance of a new type of coinage in Pisa, termed *denarii novi*, in 1192 provides a *terminus ante quem* for the type, which hence must have been minted between 1181 and 1192.

Thus proud Lucca was willing to share the profits of her mint with

<sup>23</sup> Carli-Rubbi, *Delle monete* II, 151. Carli-Rubbi publishes two versions of the convention of 1181, a Lucchese (since it contains the Pisan concessions) and a Pisan (since it contains the Lucchese concessions). Both state that the physical aspects of coinage under the league are to be determined at a future date. In a clear internal contradiction, the Lucchese version proceeds to state that Pisa's money is to be "major . . . in magnitudine amplitudinis et rotunditatis," and of color different from the Lucchese. The Pisan version, however, contains no such stipulation regarding the physical aspects of coinage under the league, and Marangone, who consulted the Pisan archival records of the convention, declares that the coins of the two cities were to be identical in weight and color. (See following note). We are evidently dealing with two versions of the convention. The coins themselves, while following the common stipulations in regard to inscriptions, show no apparent differences in size or color, and hence agree with the Pisan-Marangone version rather than the Lucchese. A better edition of the convention text would probably show that the stipulations regarding size and color in the Lucchese version are a later insert.

the young upstart Pisa in return for the introduction of clearly distinguishable coin types. This provision seems to reflect the real threat which Pisa was offering to Lucca's monetary hegemony. Undoubtedly it likewise contributed to the rapid disappearance from the sources of the traditional equation of Lucchese and Pisan money. But can it explain it entirely? Considered economically, the monies were equated not because they looked alike but rather because their value was the same. No evidence exists that the convention of 1181 altered the value of the money; on the contrary, the Pisan chronicler Marangone states specifically that the monies of Pisa and of Lucca were to be of the same weight, a fact not mentioned in the convention itself.<sup>24</sup> Presumably this means that they continued to be of the same value. Yet universally throughout Tuscany documents which formerly utilized the traditional phrase "the money of Pisa or of Lucca" begin during the eighties and early nineties to use only the money of Pisa. Perhaps an additional factor in the disappearance of the traditional equation was that the moneys were indeed no longer equal in value. Perhaps these years may have likewise witnessed a monetary reform on the part of Pisa, an introduction of an improved silver coin. On March 17, 1192, for the first time in the Pisan sources there occurs the phrase *novi denarii*, and references to *novi* or *veteres denarii* remain frequent until our chartulary breaks off in 1200.<sup>25</sup> Pisa had reformed her currency.

At first sight, the problem of the Pisan *denarius novus* appears insolvable. Documentary evidence in which the coin is mentioned is too scanty to permit any comparison of purchasing power with the old coinage.<sup>26</sup> Even the coins themselves are of no help, as only one

<sup>24</sup> Marangone, *Annales Pisani*, ed. Gentile, *Rerum Italicarum Scriptores*, n. ed. VI, 2. A. 1182, p. 72, 3ff. "... et li Pisani similmente debbeno fare a detti Lucchesi, et la moneta del colore et medesimo peso..."

<sup>25</sup> The earliest reference I can find is in an unpublished document (Archivio di Stato, Pisa; S. Lorenzo alla Rivolta) cited by R. Davidsohn, *Geschichte von Florenz I* (Berlin, 1896), p. 799. The coin first appears in the *Regestum Pisanum*, p. 469, no. 601, on September 5, 1192.

<sup>26</sup> R. Davidsohn, *Geschichte von Florenz I* (Berlin, 1896), p. 799 notes the striking of a Pisan *denarius novus* and cites the unpublished document of 1192, in which fourteen of the old denarii are exchanged for twelve of the new. As we shall see, the coins themselves confirm this significant fact that the *denarius novus* represented an improvement over the old money. However, did this new

type of Pisan denarius—the sorry coin described above—has come down to us for that period. Nevertheless, it is possible from a combination of documentary evidence and the testimony of the coins themselves to establish the nature of the Pisan *denarius novus*. But the problem must be approached not only from the standpoint of Pisa but from that of Tuscany as a whole. More precisely, to establish the nature of the monetary reform of 1192, we must turn to Siena.

Some background must first be provided concerning the money utilized in Siena. Like all other Tuscan towns, Siena used the money of Lucca almost exclusively from 1050 to well beyond 1150. But in 1157 Pisan money for the first time appeared in Siena, though again in conjunction with the money of Lucca.<sup>27</sup> In 1176, Siena entered into a monetary convention with Florence, in which she agreed to use in all transactions the official money of Florence. But the official money of Florence was, as is stated in the document, the money of Pisa, and thus in 1190 Pisan money was the official money of Siena.<sup>28</sup> Then in 1193 for the first time the money of Siena herself is mentioned.<sup>29</sup> Thus almost simultaneously, Siena begins to strike money

coin possess only 14 per cent more silver than the old issue, as the ratio 14:12 implies? Such a slight increase in the silver content would be impossible to reconcile with the evidence from the actual coins which will be adduced below. The solution to this dilemma is to be found, I believe, in the very instability of the old Pisan denarii. Both the Pisan and Lucchese denarii, as has already been pointed out, fell from one-half to two-thirds in value in the space of forty years. Thus the term "Pisan denarius" might refer to a debased coin struck late in this period or to a coin struck earlier, which might be worth two or three times as much as the later issue. This older, better money might be distinguished, as Forese of Lucca does in the document cited above, simply by calling it "the money of thirty years ago," but in the vast majority of instances we have no way of knowing the quality of the money actually exchanged. Thus those particular fourteen old denarii which according to the document cited by Davidsohn were exchanged for twelve new denarii undoubtedly represent the older, better coins. This explanation alone is consonant with the evidence from the coins discussed below.

<sup>27</sup> *Regestum Senense*, no. 217.

<sup>28</sup> "...monetam pisanam quam modo Florentini habent, vel aliam rationabilem quam in antea acquisierint faciam bannire in civitate senensi eiusque comitatu et ut predicti homines eam accipiant et tollant in arringo, consules senensium precipient suis civibus per sacramentum ut eorum cambium portent ad monetam pisanam." March 22, 1175. Quoted by Promis, *Monete della repubblica di Siena*, p. 273ff.

<sup>29</sup> *Regestum Senense*, no. 361.

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in her own name and Pisa introduces her *denarius novus*. This is a suggestive correspondence. The assumption that the two events are to be coordinated finds support in the sources. In 1215 a document coming from Siena contains the wording "libras MMCL denariorum Senensium vel novorum Pisanorum."<sup>30</sup> The *denarii Senenses* and the *novi Pisani* are thus equated. During the 1220's when Sienese sources grow much richer, so also the instances of the equation of the two coins become more common.<sup>31</sup> It seems a safe conclusion that the *novus denarius* introduced by Pisa in her monetary reform of shortly before 1192 is indeed the same *novus denarius* that throughout the first half of the thirteenth century is equated with the denarius of Siena. The almost simultaneous appearance of the two coins makes it very likely that they were struck as a result of a monetary convention. At the same time, Volterra also begins to strike a *denarius novus*, and in spite of the lack of further information on that coin, its close temporal correspondence with the introduction of the Pisan reformed currency makes it almost a certainty that Volterra reformed her coinage either as a member of a league embracing Siena and Pisa, or simply in imitation of the new Pisan and Sienese types.<sup>32</sup>

As for the character of the reform, the coins speak for themselves. To be sure, no new denarii of Pisa or of Volterra have survived, but in the denarii of Siena we possess coins which were struck as a result of the monetary reform of 1192 and which can be compared to the old denarius of Pisa. Examples of both coins may be found in the museum of the American Numismatic Society in New York. They are of the same weight (0.7 grams) and of the same crude style. However, the quality of the metal shows the full scope of the reform. The dark alloy of the Pisan coin, which contains considerably less than 20 per cent silver, is in sharp contrast with the bright metal of the Sienese, which boasts at least 80 per cent silver.

<sup>30</sup> *Ibid.*, no. 535.

<sup>31</sup> Cf. for instance *Liber imbreiaturarum Ildebrandini notarii*, ed. Bizzarri, under the lemma *Pisanus novus* and *Pisanus denarius* for numerous examples of an equal interchange between the two coins. Thus in 1228, "L. libris denariorum senensium tibi debitis pro totidem pisanis novis in cambium receptis."

<sup>32</sup> In 1196 occurs the phrase "300 pounds of the old Volterranean denarii" cited by Lisini, *Rivista Italiana di Numismatica* XXII (1909), 253. The reference to an old denarius presupposes, of course, the presence of new denarii. See also Davidsohn, *Geschichte von Florenz* I, 590.

The reform of 1192 may not be as striking as the introduction of the beautiful Tuscan grossi some years later, but it may be regarded as equally important. For the first time an attempt was made to offset the continuous debasement of the old denier by introducing alongside it a reformed denier; for the first time a coin was struck which could better meet the economic needs of the age. The striking of the *novus denarius* is significant not only for what it achieved but also for what it pointed to. It is the earliest of a brilliant series of monetary reforms effected by the cities of Tuscany; the introduction of the grossi, then the minting of gold, were the next steps forward.

The year 1192 is of course important in Italian numismatics for another event; it is the accepted date for the striking of the first Venetian grosso.<sup>33</sup> Although the Pisan *denarius novus* was not a grosso, the issuing of an improved silver coin during the same year in both Tuscany and Venice is an interesting coincidence. Born evidently of the same needs, the two coins may have had relations more intimate than present research has thus far revealed.

After 1200, the published documents of Pisa break off, and the changes in Pisan money become more difficult to trace. However, the sources of Tuscan cities such as Lucca, Siena, Florence, Volterra, Arezzo and monasteries such as Camaldoli and Santa Maria di Montepiano reveal another interesting aspect of Pisan monetary history. By studying these sources, by going back in them to the earliest years of the Pisan mint and following them to 1250, before us unfolds a pattern of expansion which even before 1250 made Pisan money the most widely used coinage of Tuscany.

Lucca, as may be expected, did not use Pisan coinage to any considerable extent even after the convention of 1181. The coins of her young rival, however, marched surprisingly close to Lucca's walls and maintained themselves even in areas which fell under the political supremacy of the latter town. In 1297, as the unpublished chartulary of her notary Rustichellus shows, the town of Fucecchio made use of Lucchese standards of weights and measures and kept a syndicus "qui respondeat et respondere teneatur...pro communi ficechi lucensi communi et omnibus officialibus lucce communis quando

<sup>33</sup> Nicolo Papadopoli, *Le monete di Venezia descritte e illustrate coi disegni di C. Kunz* (Venice, 1893). n. 1.

necesse erit." But Fucecchio used the money of Pisa, or, much less frequently, that of Florence. Lucchese coinage is almost never mentioned.<sup>34</sup>

In Florence, the victory of the Pisan money can be documented much earlier. Florence in her early history made use of the money of Lucca; in 1171, however, Florence entered into a monetary convention with Pisa, in which she was granted one-half of the profits of the Pisan mint.<sup>35</sup> No mention is made of the recognition of Pisan money within Florentine territory, but the Florentines profited by doing so. Indeed, in 1176, they call Pisan money the official money of their district.<sup>36</sup> Moreover, the complete victory of Pisan money is revealed by the contracts themselves. Lucchese money is mentioned for the last time in 1172 and from that time onward, both public and private documents are drawn up exclusively in terms of the money of Pisa.<sup>37</sup> This predominance of Pisan money in Florence continued up to and beyond the introduction of both the silver and gold florins, and for both of these larger denominations, when they were issued, the Pisan denarii undoubtedly served as the standard small change. Florence herself did not strike *denarii minuti* until quite late; the earliest mention of such a coin apparently does not occur until 1257, and up to 1279 Pisan money remained the most common currency within the Florentine territory.<sup>38</sup>

For Siena, the situation is complicated by the fact that that city began striking in 1193 an important coinage of its own. But the prestige of Pisan coinage is revealed by several facts. From 1175 probably to 1192 Pisan coinage was the official money of Siena.

<sup>34</sup> The majority of transactions are in terms of the money of Pisa or of Florence. Lucchese money is almost never mentioned although all weights and measures are fixed according to the standards of the Lucchese commune. However, in this time the gold florin is already coming into prominence. A microfilm of this chartulary is available at Yale University Library in New Haven.

<sup>35</sup> Marangone, *op. cit.* 53, 5 ff. Santini, *Documenti dell'antica costituzione del comune di Firenze*, p. 5; on the importance of this agreement, see also Davidsohn, *Geschichte von Florenz* I, 518 ff.

<sup>36</sup> See above, n. 28.

<sup>37</sup> According to the list of documents provided by Pagnini, *Della decima* in Zanetti, *Nuova Raccolta* I, 256. In Santini, from 1184 to the 1240's, Pisan money is mentioned sixty-six times, Lucchese only once (in 1208).

<sup>38</sup> Santini, *Documenti dell'antica costituzione del comune di Firenze*, p. 218, no. 70: "pisanorum veterum sive florinorum parvorum."

Furthermore, the earliest Sienese coinage was probably struck as a result of a monetary convention with Pisa and certainly modeled upon it. Lastly, Pisan money even after 1192 frequently appears in the sources of Siena both in conjunction with the Sienese coinage and alone. Indeed, during the period 1200–1250 no foreign coinage appears with such frequency in the sources of Siena as does the money of Pisa.

For Volterra, that city's earliest money, struck in 1165, was modeled upon the money of Pisa, as we have shown. Moreover, the only foreign money mentioned in the city's statutes of 1220 are the *novi denarii* of Pisa. Likewise the fact that we hear of *Vulterrani vecchi* in 1196 makes it likely that Volterra herself followed Pisa and Siena in the introduction of the *novus denarius*, perhaps herself a member of the league.

For Arezzo, monetary amounts do not occur frequently enough in the published sources to permit a precise delineation of the pattern of Pisan infiltration. Suffice to state that by 1220 Pisan money dominated transactions within Arezzo. With the striking of the grosso, Arezzo's first coinage, Pisan money continued to serve as the standard small change.<sup>39</sup>

Pisan money even penetrated beyond Tuscany. In 1163 the Emperor Frederick demanded tribute from Gubbio, a city of the Romagna, to be paid in the money of Pisa or of Lucca.<sup>40</sup>

As for the monasteries of Tuscany, no more impressive example can be found than in the chartulary of the Monastery of Camaldoli. Pisan money is first mentioned here in 1178 but not until after 1200 does it displace the money of Lucca. But then its triumph is complete. From 1202–1250, Luchese money is mentioned but three times, Pisan about 170 times. The monastery of Santa Maria di Montepiano does not present as full a picture as that of Camaldoli, but here again from 1194 to 1200 the six documents in which monetary sums are mentioned quote that amount in terms of the money of Pisa.<sup>41</sup>

<sup>39</sup> The documents edited by Pasqui, *Documenti... di Arezzo nel medio evo*, after approximately 1220 give monetary sums almost exclusively in Pisan denarii, and confirm the statements of such numismatists as Carli-Rubbi, *Delle monete*, I, 209, regarding the supremacy of Pisan money in Arezzo.

<sup>40</sup> GMH, *Leges* IV, 1, p. 310.

<sup>41</sup> Both the *Regesto di Camaldoli* and *Le carte di S. Maria di Montepiano* are excellently indexed.



The triumph throughout Tuscany of the young coinage of Pisa was doubtlessly the result of many factors. The monetary conventions which won for the Pisans recognition in Lucca and predominance in Florence and Siena are important, but evidently they alone cannot explain that success. Their efficacy was always subjected to the vicissitudes of the political situation. Yet Florence continued to use Pisan money even after the two cities entered into a period of protracted hostilities in the early thirteenth century. Likewise, the victory of Pisan money in the monastery of Camaldoli did not depend on a monetary convention, for there was none. The ultimate reason for the success of Pisan currency must rather be sought in the economic order.

As we have seen, to expand the money supply, to meet the basic monetary problem of the period, either the existing coins could be debased or new sources of silver could be appointed. The first alternative Lucca, willingly or not, chose to follow. Her money staggered and fell; her supremacy both in Tuscany and central Italy went into other hands. In the first years of its life, the mint of Pisa naturally imitated her distinguished parent. Pisan money followed the Luccese in its downward flight. But Pisa had advantages not shared by Lucca. To gain silver for the mints of Tuscany, commerce and mining were the obvious means. Around 1150 Pisa was economically the most advanced of Tuscany's cities. Moreover, she stood in a favorable position in regard to mines. Three areas in or conveniently near Tuscany promised silver: the island of Sardinia, the Massa Marittima or Tuscan coastal district, and Montieri in the diocese of Volterra.<sup>42</sup> As early as 1131 Pisa won mining concessions in Sardinia. To be sure, no evidence exists that she exploited those mines at any time in the twelfth century, but a connection between Sardinian silver and the success of Pisan money, while only hypothetical, is certainly plausible. The Massa likewise she dominated, while, Siena, and to a lesser degree Florence, were the chief exploiters of Montieri. Thus through

<sup>42</sup> Cf. R. S. Lopez, "Contributo alla storia delle Miniere Argentifere di Sardegna," *Studi Economico-Giuridici della R. Università di Cagliari* XXIV (1936); A. Lisini, "Notizia delle miniere della Maremma Toscana e leggi per l'estrazione dei metalli nel Medio Evo," *Bulletino Senese di Storia Patria* XLII (1935), 145-256; and G. Volpe, "Montieri: una terra mineraria toscana nel XIII secolo," *Vierteljahresschrift für Sozial- und Wirtschaftsgeschichte* VI (1908).

commerce and mining Pisa could inject badly needed silver into Tuscany's anemic money. The victory of Pisan coinage seems to have come simply because she was able to strike greater quantities of coins at a time when greater quantities of coins were the most pressing need of the age. Moreover, the fact that the monetary reform of 1192 which saw the earliest attempt to introduce a new silver coinage is associated with the names of Pisa and Siena—the two chief silver producers—likewise must be noted. Pisa and Siena were able to take the first steps in the reform of the coinage simply because they possessed the silver supplies without which any reform of the currency was impossible.

We must now turn to the second reform of the silver currency in Tuscany, the introduction of the silver grosso. From the standpoint of published source material, the period after 1200 is far poorer than that of the preceding decades. Without fresh investigation into the unpublished documents, the problem of the silver grosso cannot be examined with the same fullness as was the monetary reform of 1192. Nevertheless, the evidence of the coins themselves plus the information provided by that material which has been published will enable us, I believe, to trace the general development of this reform with sufficient accuracy. This will be easier to do if we consider first the more abundant sources of around 1250, and from there go back as far as our sources will allow.

In 1250, five cities were striking the silver grosso: Pisa, Lucca, Siena, Florence and Arezzo. The grossi of these cities look very much alike. They are all of the same weight (ca. 1.8 grams) and all of the same purity (approximately 96 per cent); with the exception of Siena, they all contain a portrait on the obverse of the special protector of the city. Pisa thus represents the Virgin; Lucca, Volto Santo; Florence, John the Baptist; and Arezzo, St. Donatus. On the basis of the similarity of the coins themselves, the numismatist Domenico Promis conjectured that all these coins were struck as a result of a monetary convention but was unable to produce documentary evidence revealing its existence.<sup>43</sup> Mario Chiaudano was able to cite documents showing that Siena was indeed producing its coins as a result of a monetary league; Robert Lopez called attention to the phrase in

<sup>43</sup> *Monete . . . di Siena*, p. 274 ff.

Genoese documents "miliarenses de ceca Tuscie," which reveals that the grossi (to which the *miliarenses* almost certainly refer) of the Tuscan cities were so similar that foreigners did not bother to distinguish among them.<sup>44</sup> In the *Regestum Volaterranum* a document of 1251 further adds a small but significant contribution to our knowledge of the monetary league of the grosso.<sup>45</sup> On March 1, a receipt was granted for "the sum of ninety pounds of old Pisan petty denarii in denarii grossi of silver, legal money (valentibus) in Florence, Pisa, Arezzo, Lucca and Siena." This document shows clearly that this convention embraced precisely the five cities listed.

When were the first grossi struck? Surprisingly, the *denarius grossus* appears quite rarely in the sources. As the relation between the new coin and the old denarius fluctuated continually, people found it convenient to cite amounts in terms of pounds of old Pisan denarii—by that time a standard for all Tuscany—and then agree as to how many grossi constituted at any given time the stated amount. "In denariis grossis argenti bene capientibus et valentibus dictam summam" is a frequently used formula of the unpublished Pisan notarial acts of the 1260's. Nevertheless, throughout the forties scattered references exist to all the grossi save those of Arezzo. In 1239 the fortunate survival of the inventory of an inheritance reveals that grossi of Florence, Lucca, Pisa and Siena were circulating.<sup>46</sup> The monetary league certainly existed in the thirties. For Florence, we can go two years further back. R. Davidsohn has shown that that city was striking grossi by 1237. Indirect evidence leads still further. Scattered throughout the documents of Siena during the 1230's we find references to *denarii minuti*. In 1231 occurs the curious phrase *denarii minores*.<sup>47</sup> The existence of the *denarii minuti* proves conclusively that Sienese *denarii grossi* must also have been minted at the time. Evidently the *denarii minores* of 1231 prove the same thing, but the variation in terminology is interesting. This is the sole reference I know of to such a term; universally at a later date such

<sup>44</sup> *Studi e documenti per la storia del diritto commerciale italiano nel sec. XIII* (Turin, 1930), p. 24. R. Lopez, "Il ritorno all'oro nell' occidente duecentesco," *Rivista storica italiana* LXV (1953), 46, n. 3 and 47, n. 2.

<sup>45</sup> P. 207, no. 632.

<sup>46</sup> Zanetti, *Nuova raccolta* II, 416.

<sup>47</sup> *Regestum Senense*, no. 864.

coins are called *denarii minuti*, *parvi*, or *parvuli*. If this unique use of *minores* is not simply a scribal error, it may possibly reflect that the introduction of the grossi was still so recent that the terminology had not yet been stabilized. Perhaps the grosso was indeed introduced not long before 1231. Support for this thesis comes from the fact that although Sienese commercial documents for the 1220's are especially rich, no mention is made of the *denarius minutus*. At any rate, 1231 is the earliest date at which the existence of the grosso can be definitely established. Furthermore, on the basis of the coins I think it is possible to establish a sequence of types which will tell us what cities were the first to introduce the grosso. The underlying assumption of such an attempt is that the mints of Tuscany were so closely related to one another through monetary conventions and monetary rivalries that from the standpoint of style and epigraphy no one mint would lag considerably behind the others. In other words, we may consider all the coins of the league as if they were struck by the same mint. Provided we restrict ourselves to obvious improvements in epigraphy the assumption is, I believe, entirely a safe one.

An examination of all the surviving types of grossi reveals that two cities minted grossi which may clearly be described as transitional coins between the older *denarii minuti* and the common coinage of the league (See PLATES XVI-XVII). These two cities are Siena and Pisa. To consider the transitional grosso of Siena, in two respects the epigraphy of the coin reveals its transitional character. The "S" of the inscription rests upon its side and the "E" is formed with a rounded back. Both these characteristics the grosso shares with the earlier *denarii minuti* in contradistinction to the grossi of the monetary league, including the later grossi of Siena. In all these coins, the "S" stands upright; in all, with the exception of Lucca, a straight-back "E" is utilized. Moreover, the greater crudeness of this transitional grosso is clearly to be differentiated from the fine workmanship characteristic of the portrait coins of Pisa, Siena, Florence and Arezzo.

Pisa likewise reveals a transitional type of grosso with a large "F" in the field without the lovely portrait of the Virgin characteristic of its later grossi. The transitional nature of this grosso with the large "F" is revealed by three characteristics: 1) The inscription utilizes the rounded "E" characteristic of the earlier *denarii minuti* but in contra-

distinction to the square-backed "E" of the later Pisan grossi and of all the grossi of the league with the exception of Lucca. 2) The type utilizes the spelling "INPERATOR," which is characteristic of the earlier *denarii minuti* but is nowhere to be found on the Virgo-Pisan grosso with the inscription "IMPERATOR." 3) In utilizing the large "F" in the field, this Pisan grosso simply repeats the traditional type of that city's coinage. The Virgo-type, however, represents a break with that tradition. As Tuscan cities were always intensely proud of their representative images, it would seem inconceivable that Pisa would strike the Virgin-type and then revert back to the simple F-type at a later date. Clearly, the F-type grosso represents a transitional stage between the *denarii minuti* and the fully developed Virgo-type. It is therefore certainly earlier than the Virgo-type of Pisa and most likely earlier than the other portrait grossi of the monetary league as well.

Thus two cities present transitional types of grossi which clearly suggest that these two cities—Pisa and Siena—were the ones which pioneered the introduction of the reformed silver. Precisely as they were the leaders in the reform of the *novus denarius* of 1192, so also they seem to have led the way in the reform of the silver grosso. Again the connection between the control of the sources of silver and the leadership in monetary reforms is clearly to be seen. As it appears very likely that the *denarius novus* was struck through a monetary convention between Pisa and Siena, so also it is very possible that this convention served as the kernel about which the league of the grossi was later formed.

However, can we establish a priority between Pisa and Siena for the honor of introducing the earliest grosso? Ultimately, the solution rests with the study of yet unpublished documentary evidence, but several reasons would seem to argue that Siena was the first to strike such a coin; Pisa only later followed suit. The transitional grosso of Siena appears definitely more primitive than that of Pisa. The horizontal "S" of the Sienese coin is to be compared with the upright "S" of the Pisan grosso, and the general workmanship of the Sienese grosso appears cruder. Secondly, the greater survivals of the Sienese transitional type when compared with the Pisan would suggest that they were minted for a longer period of time than the Pisan. Again,

the fact that Siena refused to change its traditional type when all other Tuscan cities adopted a portrait type would suggest the Sienese grosso was already widely known and hence subject to the immobilization characteristic of all popular issues of the era. Finally, Sienese grossi are the first whose existence can be proved from published documents.

Thus, probably sometime during the later 1220's, Siena struck the first grosso and was later joined by Pisa. The year 1227, the date of a military alliance between the two cities, is a suggestive date, but must await confirmation from yet unpublished sources. Sometime during the 1230's all the cities of Tuscany followed the lead of Siena and Pisa in striking grossi, and all except Siena adopted a portrait type. The second great reform of Tuscan silver was thus achieved.

Thus the monetary history of Tuscany from 1150 to 1250 is dominated by two remarkable developments: the rapid spread of Pisan coinage, and the two reforms of the silver currency that took place shortly before 1192 and 1231 respectively. Underlying both these developments were the famine of silver and the continuous debasement which had been characteristic of Tuscany's monetary development during the century 1050 to 1150 and beyond. Explaining both these developments is the control of the silver supplies of Tuscany. Pisan money spread because Pisa had the needed silver to strike greater quantities of money when greater quantities were the crying need of the day. Pisa and Siena were able to introduce a reformed coin in 1192 simply because those cities had the supplies of silver necessary for the achievement of such a reform. Siena and Pisa (but had Pisa now fallen into a secondary position?) played the leading role in the introduction of the grosso for the same reason, and the other cities in the 1230's followed their suit. The work of Pisa and Siena was basic in the introduction of a reformed silver coinage. This work laid the groundwork for Florence's successful introduction of gold, and in a very real sense the great event of 1252 was a continuation and culmination of the reforms of Tuscan silver that this paper has sought to examine.

Yet another characteristic of Tuscany's later history may in some way be connected with these silver reforms. From the thirteenth century, the Tuscans were, of course, the bankers *par excellence* of

Europe. The flourishing of their credit institutions goes back to the twelfth century when the Sieneſe supplanted the Romans as the financial agents of the papacy.<sup>48</sup> This momentous change cannot be explained by any ſingle factor, leaſt of all by improved coinage. But the criſis of the Luccheſe denarius, felt almoſt as much in Rome as in Tuscany, and the introduction of the Sieneſe denarius and groſſo may have given Siena a preſtige ſimilar to that which gold coinage later gave Florence. If this is true, the reforms of Tuſcan ſilver may have contributed to one of the moſt important developments of the later Middle Ages: the riſe of the Tuſcan bankers. At any rate, in any definitive explanation of that riſe, it will deſerve conſideration.

DAVID HERLIHY

### BIBLIOGRAPHICAL GUIDE

Plates of the coins of the period together with full information about them (except, unfortunately, for the purity of their metal!) may be found in the monumental *Corpus Nummorum Italicorum*, of which Volume XI is devoted to Tuscany with the exception of Florence, and Volume XII to Florence excluſively. However, there exiſts as yet no ſatisfactory numismatic handbook for the period, ſimply becauſe the ſpade work remains to be accompliſhed. Cf. the pertinent remarks on the ſtate of Italian numismatic ſtudies by Gino Luzzatto, "The Study of Medieval Economic Hiſtory in Italy: Recent Literature and Tendencies," *Journal of Economic and Buſineſs Hiſtory* IV (1931-32), pp. 721-22. Curioſly enough, the neareſt approach to ſuch a handbook is provided by M. P. Fabre in his edition of the *Liber censuum* (*Le Liber censuum de l'église romaine*, Bibliothèque des Ecoles françaises d'Athènes et de Rome, 2. ſer., T. 6, [3 vols. in 2; Paris, 1905-52]). Fabre provides full annotations together with bibliographical references to all the coins mentioned in the *Liber censuum*, which in effect means to all the coins circulating in Italy during the twelfth century. As to the value of the coins, Fabre's notes have been ſuperseded by the important reſearches of V. Pfaff, "Die Einnahmen der römischen Kurie am Ende des 12. Jahrhunderts," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* XL (1953), pp. 97-118, who likewiſe baſes his work on the *Liber censuum*.

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<sup>48</sup> Cf. R. Lopez, "Économie et architecture médiévales: cela aurait-il tué ceci?" *Annales économies-sociétés-civilisations* VII (1952), 434-435, for a ſtatement of the problem and an ingenious development of another factor involved.

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For Tuscan coinage, see R. Davidsohn, "Wert der Sieneser, Luccheser, Pisaner Silbermünzen und der Silber-Florene im 13. Jahrhundert und den folgenden Jahrzehnten," *Forschungen zur Geschichte von Florenz* IV (Berlin, 1908), 316-323. Davidsohn is wrong, however, when he states that Florence was the first Tuscan city to strike a silver grosso. For none of the Tuscan cities does a completely satisfactory numismatic study exist. The basic work on the Lucchese mint is still C. Cordero di San Quintino, *Della zecca e delle monete degli antichi marchesi della Toscana* (2nd ed.; Pisa, 1821). Largely based upon San Quintino is D. Massagli, *Introduzione alla storia della zecca e delle monete lucchesi*, Memorie e documenti per servire alla storia di Lucca, XI, 2 (Lucca, 1870). On the need for an up-to-date study of the Lucchese mint, see the pertinent remarks by Fabre, *Liber censuum*, I, 52. For source material, the richest collection from the standpoint of numismatic history is *Regesto del capitolo di Lucca*, ed. P. Guidi and O. Parenti, *Regestum Chartarum Italiae*, VI, IX, and XVIII (Rome, 1910-1933). The "Regestum Chartarum Italiae" is referred to as the RCI. Unfortunately, however, the *Regestum Lucense*, as this work is referred to, breaks off at 1200 and its use is handicapped by the lack of an index.

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## A RARE CRUSADER BEZANT WITH THE *CHRISTUS VINCIT* LEGEND

(SEE PLATE XVIII, 1-2)

The arrival of the papal legate Eudes of Châteauroux and King Louis IX of France at Acre in May, 1250, was followed by a drastic change in the coinage of the Holy Land.

For a period of a century and a half, the rulers of the crusader states had been accustomed to strike blundered imitations of various types of Islamic dinars.<sup>1</sup> These *besancii sarracenati*, as they were called, have survived in considerable numbers. They are frequently referred to in documents of the twelfth and thirteenth centuries,<sup>2</sup> and were issued from the mints of Acre, Tripolis, Tyre and Antioch.<sup>3</sup> It is generally believed that they were struck by Venetian moneyers, but the documents cited in support of this view do not justify such a conclusion.<sup>4</sup> The mints would no doubt be operated under contract

<sup>1</sup> The four essential accounts of this pseudo-Islamic coinage are Henri Lavoix, *Monnaies à légendes arabes frappées en Syrie par les croisés* (Paris, 1877); Melchior de Vogüé, "Monnaies et sceaux des croisades," *Mélanges de numismatique*, II (1877), pp. 168-77, 191-94; Gustave L. Schlumberger, *Numismatique de l'Orient latin* (Paris, 1878), pp. 130-39; Louis Blancard, "Le besant d'or sarrazines pendant les croisades," *Mémoires de l'Académie des Sciences, Lettres et Beaux-Arts de Marseille*, 1879-80, pp. 151-88. De Vogüé, followed by Schlumberger, dated these coins too precisely to the early years of the twelfth century. They were in fact immobilized, as was so much of the French feudal coinage to which the crusaders were accustomed, and some of them were struck with little change of type from the early twelfth century to 1250. The varying types of the imitations, as Blancard showed, indicate differences in place of minting and not differences in date. His article provides some essential corrections to Schlumberger.

<sup>2</sup> Besides the literature just noted, and especially the study of Blancard, see also the latter's *Documents inédits sur le commerce de Marseille au moyen-âge* (2 vols. Marseilles, 1884-85).

<sup>3</sup> They are distinguished in the texts as *bizantii Acconitani*, *Tripolitani*, *Tyrenses*, *Antiocheni* (or *bizantii ad pondus Acconense*, etc.). Islamic sources call them all comprehensively "bezants of Sur (Tyre)."

<sup>4</sup> The texts are cited by Lavoix, *op. cit.*, pp. 59-60, and Schlumberger, *op. cit.* p. 137, n. 2. They state that Venetians acted as moneyers in the kingdom of

from the king of Jerusalem in the case of Acre and Tyre, from the count of Tripolis for the coins struck at Tripolis, and from the prince of Antioch for those struck at Antioch. It seems likely that they were separate establishments from the mints which turned out the billon currency of western type.<sup>5</sup>

Eudes of Châteauroux was probably not the only member of the crusading army to disapprove of the practice of Christians striking coins which, in however blundered a form, bore the name of Muhammad and the date according to the Hijra. He excommunicated those responsible, and wrote to Pope Innocent IV asking his approval of what he had done. His letter is lost, but the pope's reply, giving his approbation to the legate's action, has survived.<sup>6</sup> It is dated from Perugia, 12 February 1253, but is couched in the past tense: the persons excommunicated are those who had been striking money of this kind, or who should do so in the future. The implication of the letter is that at the moment of writing the practice had stopped. Presumably Eudes had issued an ultimatum to the mints of Acre and Tripolis, ordering them to Christianize their coins, and his command had been obeyed.

The surviving coins tell us what had happened at Acre. Here, from 1251 onwards, there were struck a series of bezants, dirhams and half-dirhams on which the legend was in correct Arabic script and

Little Armenia, but do not imply that "hii qui bisancios seu monetas operantur in Aconensibus partibus" were also necessarily Venetians. Nor does the fact that the "domus . . . in qua . . . fabricata et incusa moneta fuit" in Tyre was situated in the Venetian quarter necessarily mean that it was they who operated the mint.

<sup>5</sup> This is only a conjecture, but the technique of making the dies was different (below, p. 175), which suggests a separate establishment.

<sup>6</sup> The letter is given by Lavoix, *op. cit.*, pp. 52–3, and Schlumberger, *op. cit.*, pp. 139–40, also in E. Berger, *Les registres d'Innocent IV*, III (Paris, 1897), no. 6336. The legate had discovered "quod in bisanciis et dragmis, que in Aconensi et Tripolitana civitatibus fiebant a Christianis, nomen Machomethi atque annorum a Nativitate (*sic!*) ipsius numerus sculpebantur." The relatively late date of the letter is curious. Eudes of Châteauroux had arrived in the Holy Land in May, 1250, and must have taken action immediately, for the coinage of Acre had been changed by 1251. Why, then, write for papal approval sometime in 1252? Possible answers are that Tripolis, less amenable to the legate and St. Louis, still adhered to the old types, or because the changes it had made were regarded by the legate as insufficient. The first possibility seems to me unlikely.

language but whose content was purely Christian.<sup>7</sup> The gold coins preserved one of the common features of Fatimid dinars, a double circle of legend surrounding a central area. In this area, on one face of the coin, were placed the words *One God*, which were amplified in the circular legend as *Father, Son and Holy Spirit*, thus offsetting the Muslim Profession of Faith on Islamic coins. The area on the other face of the coin was occupied by a cross which, like the initial cross in the circular legend, was taken over from normal western usage. The outer marginal legends were Christian in content, but as on Islamic coins included the mint and date, the latter by the year of the Incarnation: *Struck at Acre, in the year 1251 of the Incarnation of the Messiah*. Various dates between 1251 and 1257 (or 1259) inclusive have been recorded, but the minting of the coins may well have continued after the 1250's either with dates not yet discovered or with immobilized ones.

Innocent IX's letter states clearly that Acre was not the only mint; Tripolis was active as well. We have no reformed bezants of Tripolis of the same type as those of Acre, with a legend Arabic in script but Christian in content and giving the name of the mint, but Blancard has pointed out that some specimens of the pseudo-Arabic series bearing a B on one face and a T on the other have a cross in the middle of the legend, and he conjectures that these were the bezants issued at Tripolis after 1250.<sup>8</sup> This highly probable supposition may be accepted.

It is generally agreed that it was St. Louis who was primarily responsible for the substitution of Christian for pseudo-Muslim

<sup>7</sup> On these coins, see Lavoix, *op. cit.*, pp. 52-62, and Schlumberger, *op. cit.*, pp. 139-43. There was possibly also a change in weight, but the weight system and the fineness of the *besancii sarracenati* are matters that still await investigation. A fundamental contribution to our knowledge of the silver coinage is the recent article by Paul Balog, "Etudes numismatiques de l'Egypte musulmane. II: La trouvaille du Fayoum: dirhems Ayoubites, du premier roi Mamelouk Aybek et d'imitation arabe des Croisés," *Bulletin de l'Institut d'Egypte*, XXXIV (1951-52), pp. 17-55.

<sup>8</sup> *Art. cit.*, p. 174. The B-T bezants were attributed by Schlumberger (after De Vögué) to the reign of Bohemond of Antioch, while Tancred was acting as regent. They are far too common, and found in hoards of too late a date (mid-13th century), to justify such an interpretation, and one can safely follow Blancard in interpreting the B and T as Bohemond and Tripolis. Counts of the name of Bohemond ruled Tripolis continuously from 1201 to 1287, and there is no evidence that the series is older than the thirteenth century.

bezants at Acre, since he was in residence in this city from May, 1250, to March, 1251, and during his sojourn in the Holy Land he was far more effectively its sovereign than the distant Emperor Frederick II or, after the latter's death (December, 1250), Conrad of Germany.<sup>9</sup> It is reasonable to ask whether he was also influential in bringing about a similar change in Tripolis.

The answer is probably but not certainly in the negative. From 1201 onwards the county of Tripolis had been united to the principality of Antioch. In January, 1252, Bohemond V died, leaving as his heir Bohemond VI (1252-74), a boy of fourteen. The regent was his widow, Lucia de Segni, who resided in Tripolis, neglected the remoter and less attractive principality of Antioch, and tyrannized over her son. The latter appealed for help to St. Louis, whom he visited at Jaffa in the winter of 1252-53. He made the best impression possible on the king, and Joinville records of him that "a wiser youth I never saw."<sup>10</sup> St. Louis knighted him, despite the fact that he was under age, and secured for him complete control of his two principalities in return for the undertaking that Lucia should receive regularly the payment of her dowry.<sup>11</sup> There were therefore close relations between Louis and Bohemond VI, but it seems difficult to admit that the introduction of the Christianized bezants at Tripolis can have been postponed to as late a date as 1253. It is more likely that they were introduced by Lucia de Segni — possibly even by Bohemond V before his death — as a direct consequence of the fulminations of Eudes of Châteauroux.

There remains, however, another Syrian gold coin which has to be fitted into the picture. A specimen of it, in the Bibliothèque Nationale, was published by Schlumberger amongst the "Additions et rectifications" to his *Numismatique de l'Orient latin*.<sup>12</sup> It has as its

<sup>9</sup> The anonymity of the Acre bezant, something quite unusual at this period, was probably due to an intelligible reluctance to place the name of an excommunicated sovereign on the coin. See also below, p. 175.

<sup>10</sup> "Onques si saige enfant ne vi" (*Histoire de Saint Louis*, c. 101).

<sup>11</sup> See René Grousset, *Histoire des Croisades et du royaume franc de Jérusalem*, III (Paris, 1936), pp. 511-15. Pope Innocent IV, in a letter of 7 November 1252 (Berger, *Registres d'Innocent IV*, III, no. 6070) had agreed to advance the boy's majority, though he would not attain the age of sixteen till August, 1253.

<sup>12</sup> P. 495; illus. on pl. XIX, 9. Its exact provenance is not known; it was bought in 1860 from M. de Saint Sauveur with a number of miscellaneous pieces.

obverse type an *Agnus Dei*, as its reverse type a cross pattée with a pellet in the second quarter, each type being surrounded by two circles of legend. On grounds of origin, metal, fabric and general appearance, Schlumberger had no doubts as to its crusader character, but he was unable to suggest for it a specific mint, though he noted that the Paschal Lamb was found on one rare coin of a count of Tripolis of the twelfth century. The details of the specimen in the Cabinet des Médailles are extremely difficult to decipher, owing to the slipping of the dies during striking, but Schlumberger could make out that it bore, instead of the name of a ruler or a state, the obverse legend *Agnus Dei qui tollis peccata mundi* and the reverse legend *Christus vincit, Christus regnat, Christus imperat*. The coin is of base gold, and weighs 3.625 gr.<sup>13</sup>

Two further specimens of this extremely rare coin have since come to light. One is in the museum of the American Numismatic Society, which acquired it in July, 1952, from the dealer Edward Gans, who in turn had obtained it from the Beyrouth dealer, Mr. Armenak A. Poladian. The other is in my own collection. It was bought from Messrs. B. A. Seaby, who acquired it as part of lot 105 at a Glendining (London) sale of 23 June 1953. The two coins may be described as follows:

1. *Obv.* †ΑΓΝΥΣ:ΔΘΙΛΛΙΤ (outer legend)  
 †ΡΕΘΩΤΑ:ΩΝΩΔΙ (inner legend). Paschal Lamb I. Legends separated from one another and from the field by plain lines. Outer border of pellets.  
*Rev.* †ΛΛΛΛVS:VINQITXPISVSΛΛΛΛ (outer legend)  
 †XPISVS:ΙΩΡΘΑΤ (inner legend).  
 Cross pattée, pellet in third quarter. Lines and border as on obv.  
 Diam. 20.5 mm. 3.36 gr. Base gold. PLATE XVIII, 1.
2. *Obv.* †ΑΛΛΛΛS:ΔΘΙ:QΛΛΛΛΛ (outer legend)  
 †ΡΕΘΩΤΑ:ΩΝΩΔΙ (inner legend). As no. 1.  
*Rev.* †XΛΛΛΛ:VINQITΛΛΛΛTVSRΘΓΙ (outer legend)  
 (inner legend). As no. 1, but pellet in first quarter.  
 Diam. 21 mm. 3.31 gr. Base gold (fineness ca. 16 carats). PLATE XVIII, 2.

<sup>13</sup> A cast of the coin and various details regarding it have been kindly supplied me by M. Jean Lafaurie. In view of its deplorable condition, it is a matter of great credit to Schlumberger that he was able to describe and reproduce the coin so accurately.

The interest of these two pieces derives in part from their associations. The ANS specimen formed one of a hoard of at least 31 crusader gold coins made up as follows:

Schlumberger, Pl. V. 17-18	(Acre, <i>ante</i> 1251)	8 specimens.
Schlumberger, Pl. V. 27	(Acre, <i>post</i> 1251)	4 specimens.
Schlumberger, Pl. V. 22	(Tripolis, <i>ante</i> 1251)	3 specimens.
Schlumberger, Pl. V. 24	(Tripolis, <i>post</i> 1251)	9 specimens.
Schlumberger, Pl. V. 20-21	(? Tyre, <i>ante</i> 1251)	6 specimens.
Schlumberger, Pl. XIX. 9	(? Antioch <i>post</i> 1253)	1 specimens.

Four of these coins, one each of the first and fifth and two of the third group, were bought by the ANS, and three others, two of the first group and one of the fourth, are in my collection. The remaining specimens were sold to other collectors and are now dispersed, but Mr. Gans and Mr. Poladian kindly gave me the rubbings of the whole series which enabled me to identify them. Unfortunately no record was kept of their weights.

Similar associations can be established for the coin I acquired from Messrs. Seaby. The two other crusader coins in lot 105 in the Glendining sale in question were Schlumberger, Pl. V, 24 and 27. They are now in the hands of Mr. Paul Bedoukian, of New York, who kindly allowed me to examine them. They have a greyish-brown incrustation of a type identical with that which appears on my *Agnus Dei* piece, which suggests that the three were found together. It is indeed natural, in view of the unlikelihood of two such rare pieces as the *Agnus Dei* ones appearing independently on the market almost simultaneously, to suspect that Mr. Poladian's coins and those in the Glendining sale came from a single source; but from information given me by Messrs. Glendining & Co. regarding the provenance of lot 105, it appears that this cannot be the case. We have to do with two separate finds of coins.

Each *Agnus Dei* piece was therefore found associated with *besancii sarracenati* which cannot be precisely dated but which were certainly being struck up to 1250, and with specimens of the reformed bezants which were being struck in Acre and Tripolis from 1251 onwards. Since the *Agnus Dei* bezants resemble these in weight and module, and bear every mark of being contemporary with them, it seems

reasonable to infer that they are either a continuation of the reformed bezant of Tripolis or a parallel series of coins issued from the mint of Antioch. The latter hypothesis is the more likely, for Baldwin VI, on taking up his residence at Antioch in 1253, would probably have opened a mint there and produced a new type of coin; while the fact that the design of the *Agnus Dei* imitates the double circle of legend on the bezants of Acre suggests that they started at a slightly later date than these. In any event, their attribution to Baldwin VI seems to be virtually certain, and that to the mint of Antioch to be probable. Their anonymity is curious, but Baldwin VI may well have felt it unbecoming in a vassal to strike gold in his own name. Such would certainly have been the opinion of St. Louis, if one can judge from his monetary policy with regard to the barons in France.

The technique of the striking of the bezants is interesting, for the dies have been almost entirely engraved. This is quite contrary to the normal western usage of this period, according to which the letters were built up by the use of a limited number of punches of different shapes,<sup>14</sup> but is in accordance with the practice employed for the earlier pseudo-Arabic bezants. It would seem, therefore, that some of the workmen who had been responsible for the latter were now turned over to making the new series of coins. This is confirmed by the blunders in the legends — TOLLIT for TOLLIS, Ⲡⲉⲩⲛⲁⲓ for Ⲡⲉⲩⲛⲁⲓ, RGG for RGGNAT — and the curious form assumed by some of the letters, notably the Ⲡ for M, for which parallels can be found in Germany but not, so far as I am aware, in France, Italy, or the Holy Land. The die-cutters were apparently unfamiliar both with western lettering and with Latin, and had to copy as best they could the designs that were submitted to them.

At a time when liturgical symbols and formulae were familiar to all, and liable to be used as a decorative feature on any object, it is scarcely necessary to work out a detailed pedigree for the type and legends of the *Agnus Dei* bezant. The Paschal Lamb had, as Schlumberger observed, been used once before on a coin of Tripolis, but the

<sup>14</sup> The best description of this practice is in an article by Shirley Fox, "Die-making in the Twelfth Century," *British Numismatic Journal*, VI (1909), pp. 191-196. What he has to say applies equally to the thirteenth century, and to most of western Europe.



design of a billon denier ascribed to Raymond II (1152–87)<sup>15</sup> is scarcely likely to have inspired that of a gold bezant a century later. The Paschal Lamb was obviously a suitable emblem for the “Christianization” of the coin, and it was only natural that it should be accompanied by the *Agnus Dei* formula, whose threefold repetition by the priest after the close of the Canon of the Mass would be known to all.

The reverse legend has a more interesting history, which in its innumerable ramifications has been made the subject of an admirable study by Prof. Ernst Kantorowicz.<sup>16</sup> In its full form, *Christus vincit, Christus regnat, Christus imperat*, it derived from the Gallican coronation liturgy, and its use passed with the crusaders to the Holy Land. Raoul of Caen alleges that the Armenians at Adana used it in reply to the *Allah Akbar!* (“God is Great”) of the Muslim host during the Cilician campaign of Tancred (1097),<sup>17</sup> and though this is not likely to have been literally the case, it at least shows that a Christian writer regarded the formula as a reasonable rendering of whatever the Armenian war-cry may have been. The Latins themselves used it as their battle-cry at the third battle of Ramleh (1105),<sup>18</sup> which

<sup>15</sup> Schlumberger, *op. cit.*, p. 103 (pl. IV, 8.). This coin merely bears the name of Raymond, and is attributed to Raymond II on the ground that it may have been inspired by deniers and obols of the same type struck by the counts of Toulouse at Saint-Gilles during the twelfth century (F. Poey d’Avant, *Monnaies féodales de France* (Paris, 1860), II, nos. 3711–22). Another possible explanation is that the type was chosen as being the emblem of the Order of St. John of Jerusalem, whose great strongholds (Margat, Krak des Chevaliers, etc.) in the neighbourhood of Tripolis were the main elements in the defence of the country. The states of Antioch and Tripolis were so closely connected that such a derivation would not necessarily imply that the coins were struck at Tripolis itself.

<sup>16</sup> Ernst H. Kantorowicz, *Laudes regiae. A Study in Liturgical Acclamations and Mediaeval Ruler Worship* (Univ. of Calif. Publications in History, Vol. 33. Berkeley, 1946). Its use on coins is more especially dealt with on pp. 1–12 and 222–30.

<sup>17</sup> *Gesta Tancredi*, c. 40 (in J. P. Migne, *Patrologia latina*, CLV, p. 521): “ex illo Allachibar, quod infidelitas orando exclamat, hac in urbe obmutuit, ac pro eo *Christus vincit, Christus regnat, Christus imperat*, tanquam rediens postliminio, reboavit.” This passage and the one in the next note are cited by Kantorowicz, p. 11.

<sup>18</sup> Fulcher of Chartres, *Historia Hierosolymitana*, II, 32, 5 (ed. H. Hagenmeyer, Heidelberg, 1913, p. 497): “Factoque utrinque impetu, exclamaverunt nostri omnes contra eos: *Christus vincit, Christus regnat, Christus imperat!* sicut eis iussum fuerat.” The editor objects that the battle-cry could scarcely have

ended the last serious attempt of the Fatimids to reconquer Palestine. The Norman kings of Sicily had employed portions of it occasionally on their coins, and in its full form it appears in 1212 on a golden *bull*a of Frederick II as king of Sicily on which the legend surrounds a castle symbolizing the Regno.<sup>19</sup> Its earliest use on an actual coin would appear to be that on the bezant here described.

This fact is of considerable interest, since, whether or not St. Louis inspired the striking of the coin, he is at least likely to have made its acquaintance before his departure from the Holy Land (April, 1254), and it may have influenced his own future coinage. In 1266 he carried out a major currency reform in France, creating the gros tournois and the écu d'or.<sup>20</sup> The types of the first of these are those of the old denier tournois, but enlarged with an outer border of lis on the obverse and an outer circle of legend, derived from the liturgy, on the reverse. Louis Blancard pointed out in 1882 that the reverse type, in its general plan of two circles of legend with a cross in the centre, is identical with that of the bezant struck at Acre from 1251 onwards, and suggested that the latter coin, which St. Louis must have known of and possibly inspired, suggested the type of the gros tournois.<sup>21</sup>

been in Latin, but he did not know of the liturgical significance of the formula and its consequent familiarity to many.

<sup>19</sup> Otto Posse, *Die Siegel der deutschen Kaiser und Könige*, I (Dresden, 1909), pl. 27, nos. 3, 4.

<sup>20</sup> For the gros tournois, the date is certain; see M. Maxe-Werly, "Note sur l'origine du gros tournois," *Mémoires de la Société Nationale des Antiquaires de France*, 4th series, X (1879), pp. 68–96. The écu d'or, regarding whose origin we have no documentary evidence, must have been created either at the same date or sometime between it and the death of St. Louis (1270), for its value presupposes the existence of the gros tournois. The same date seems the more likely hypothesis of the two.

<sup>21</sup> "Le gros tournois est imité du sarrazinas chrétien d'Acre," *Revue numismatique*, 3rd series, I (1883), pp. 166–9. This note was first published in the memoirs of the Marseilles academy for 1882, and there is a German translation in the *Zeitschrift für Numismatik*, XI (1884), pp. 39–41. It is accepted by A. Engel and R. Serrure, *Traité de numismatique du moyen âge*, III (Paris, 1905), pp. 947–8. On the other hand, Adrien Blanchet refuses to admit the similarity between the reverses of the gros tournois and the Acre bezant as being anything more than a coincidence, and points out that the use of a central cross, and the presence of an initial cross in the legend, are themselves of western derivation ("Note sur l'origine du gros tournois," *Comptes rendus de l'Académie des Inscriptions*, 1901, pp. 258–62, and in A. Blanchet and A. Dieudonné, *Manuel de numismatique française*, II (1916), 228).

The *Agnus Dei* bezant seems to supply an intermediate link in this derivation, for it is clearly based on the Acre bezant but resembles the gros tournois in having a Latin legend consisting of a liturgical phrase. It is equally possible that it suggested the use of the *Christus vincit* legend, which was first employed in western Europe on the écu d'or of St. Louis and thenceforward appeared on every French regal gold coin down to the time of the French Revolution.<sup>22</sup>

PHILIP GRIERSON

<sup>22</sup> It is scarcely necessary to say that this crusader *Agnus Dei* coin can by no stretch of the imagination be identified with the mythical agnel d'or of St. Louis, whose existence was completely disposed of by M. de Marchéville, "Le denier d'or à l'Agnel," *Revue numismatique*, 3rd series, VII (1889), pp. 1-37

## THREE ECCLESIASTICAL SILVER COINS OF COLOGNE

(SEE PLATE XVIII, 3-4; XIX,1)

Alfred Noss, in a note to one of the coins he published,<sup>1</sup> a taler dated 1587 stated, "This coin could not be traced. Perhaps it went with many other unaccounted pieces to the United States and hence became inaccessible for German research." His presumption proved to be correct.

While rearranging the collection of The American Numismatic Society which contains more than 350 pieces of Cologne, two items, the existence of which Noss suspected, were discovered. They had been given to The American Numismatic Society in 1919 by Daniel Parish, Jr., who had acquired the specimens at the beginning of the century. In addition to these two pieces, an unpublished double taler klippe of 1568 which was unearthed from a dike during the German invasion of the Netherlands in 1940 has also been donated to The American Numismatic Society and can be described with the others.

1. *Salentin of Isenburg 1567-1577. Double taler klippe 1568 struck at Deutz with the taler dies, Noss 71.*

St. Peter, with halo, in fluttering coat, hurrying to the left. He holds in his right hand a key, in the left a book, 15-68 in the field; o SALENTIN o ELECTVS o - o ECCLESIE o COLONIE o. *Rev.* Large chapter arms with center shield of Isenburg suspended from richly decorated helmet with two flags; \* MONETA \* NOVA \* - \* ARGENT \* TVICII \*. 47 by 46 mm. 55.8 gr.

PLATE XVIII, 3.

This taler coinage marks the beginning of the use of the rolling mill. These coins are outstanding in their graceful design and excellent workmanship, and must be considered among the most beautiful of sixteenth century coins.

<sup>1</sup> Alfred Noss, *Die Münzen und Medaillen von Köln*, III (1925), p. 112, no. 160.

2. *Gebhard II, dapifer of Waldburg 1577–1583. Half taler klippe 1581 struck with the quarter taler dies, Noss 98.*

Small half-length figure of St. Peter with key resting on large chapter arms with the three leopards of Waldburg in the center: GEBHAR. D:G. ELECT. ET. CONFIR. COLO,<sup>1</sup> the last L partly cut into the O. *Rev.* Arms with five compartments for Mayence, Trier, Cologne, Palatinate-Bavaria, and Hesse: MO. NO. RHEN. ELECT. PRINC. CONSOCI. 28 by 28 mm. 14.45 gr. PLATE XVIII, 4.

Formerly in the Garthe collection, No 5275, the existence of which Noss doubted by suggesting that the Garthe specimen might have been a taler klippe struck with the half taler dies. Also compare Keller, *Mitteilungen der Bayerischen Numismatischen Gesellschaft*, XXXVIII–XXXIX (1920/21), p. 103, no. 17B.

3. *Ernest, Duke of Bavaria 1583–1612. Taler 1587 struck at Arnsberg in Westphalia.*

Bust to right; \* ERNES. D:G. ARC. ET. ELECTOR. COL. WEST. FT. (sic) ANG. DVX. *Rev.* Chapter arms with small shield of the Palatinate and Bavaria; MONE. NOV. ARGEN. ARN(S)BERGENS. 87:

PLATE XIX, 1.

Catalogue Schultze, Hess, December 1883, No. 80, lists a taler of 1587 as obverse Schulthess 3326 and reverse unrecorded. Our coin might very well be the Schultze specimen. The scarcity of this issue can very easily be explained when it is realized that the mintmaster Melchisedek König died shortly after his appointment. The dies must have cut in a great hurry. This appears obvious from the faulty legend with "FT" instead of "ET" and the generally poor engraving of the dies.

HENRY GRUNTHAL

## AN UNRECORDED DUCAT OF RIGA

(SEE PLATE XIX, 2.)

In August, 1953, an unpublished variety of a Polish gold coin was added to the collection of The American Numismatic Society.

*Stephan Bathori 1575–1586. Ducat 1585 struck at Riga.*

\* STEPHA \* D \* G \* REX \* PO \* D \* L \* between two corded circles. Crowned bust in armor to right, interrupting the legend.

Rev. MO. NO. AVREA. CIVITATIS. RI. 85 ♣ between two corded circles. Two lions supporting the arms of the city of Riga. PLATE XIX, 2.

Compare with Hutten-Czapski 7220 but PO(loniae) instead of P(oloniae) in obverse legend. Also compare picture 59 on page 73 of Gumowski's *Podrecznik Numizmatyki Polskiej*, Cracow, 1914. There are three specimens of the 1585 ducat known. They are in the following collections: Vienna, Cracow (Hutten-Czapski), and Hermitage.

Stephan Bathori, Duke of Transylvania and husband of Anna of Poland, was elected king of Poland in December, 1575. He had reigned in Transylvania since 1571 and was crowned king of Poland at Cracow in May, 1576. His election to the Polish throne was a fortunate one for he was an excellent military leader and was also deeply interested in affairs of state. It is, therefore, no wonder that he was also concerned about the improvement of the monetary conditions which were in a pitiable state when he took over the reins of government after Sigismund August and the interregnum under Henry de Valois. In 1580 he issued a regulation pertaining to the weight and fineness of his coinage. Coins were struck at the following mints during Stephan Bathori's reign: Olkusz, Posen, Marienburg, Vilna, Danzig, Mitau, and Riga.

Riga enjoyed a very dubious freedom from 1561 to 1581 when the city had to submit to Polish rule as a result of Stephan Bathori's successful campaigns. The coinage at Riga was not as abundant as

in the mints of the crown. The Riga mint struck schillings, half groschens, groschens, 3 groeschers, and ducats. Only three gold coins are known, namely, 10 ducats of 1586 and ducats of 1584 and 1585. This ducat of 1585 is a new variety to Hutten-Czapski 7220 and may possibly be unique.

HENRY GRUNTHAL

## SUPPLEMENTARY NOTES ON KIURIKE II, KING OF LORI IN ARMENIA AND HIS COINS

(SEE PLATE XIX, 3-6)

In the last volume of *Museum Notes*, Mr. Paul Bedoukian published a rare copper coin in the Museum of the American Numismatic Society struck by an Armenian medieval ruler named Kiurikē or Gorige the Kuropalates.<sup>1</sup> Its interest is enhanced by the fact that this is the earliest monetary issue to bear an inscription in Armenian, as well as being the only such type struck within Great Armenia in Transcaucasia before the transference of the kingdom to Little Armenia in Cilicia. In the course of his informative paper, based for the most part on recent Armenian historical research, Mr. Bedoukian discusses the question of the identity of the prince and the geographical position of his kingdom.

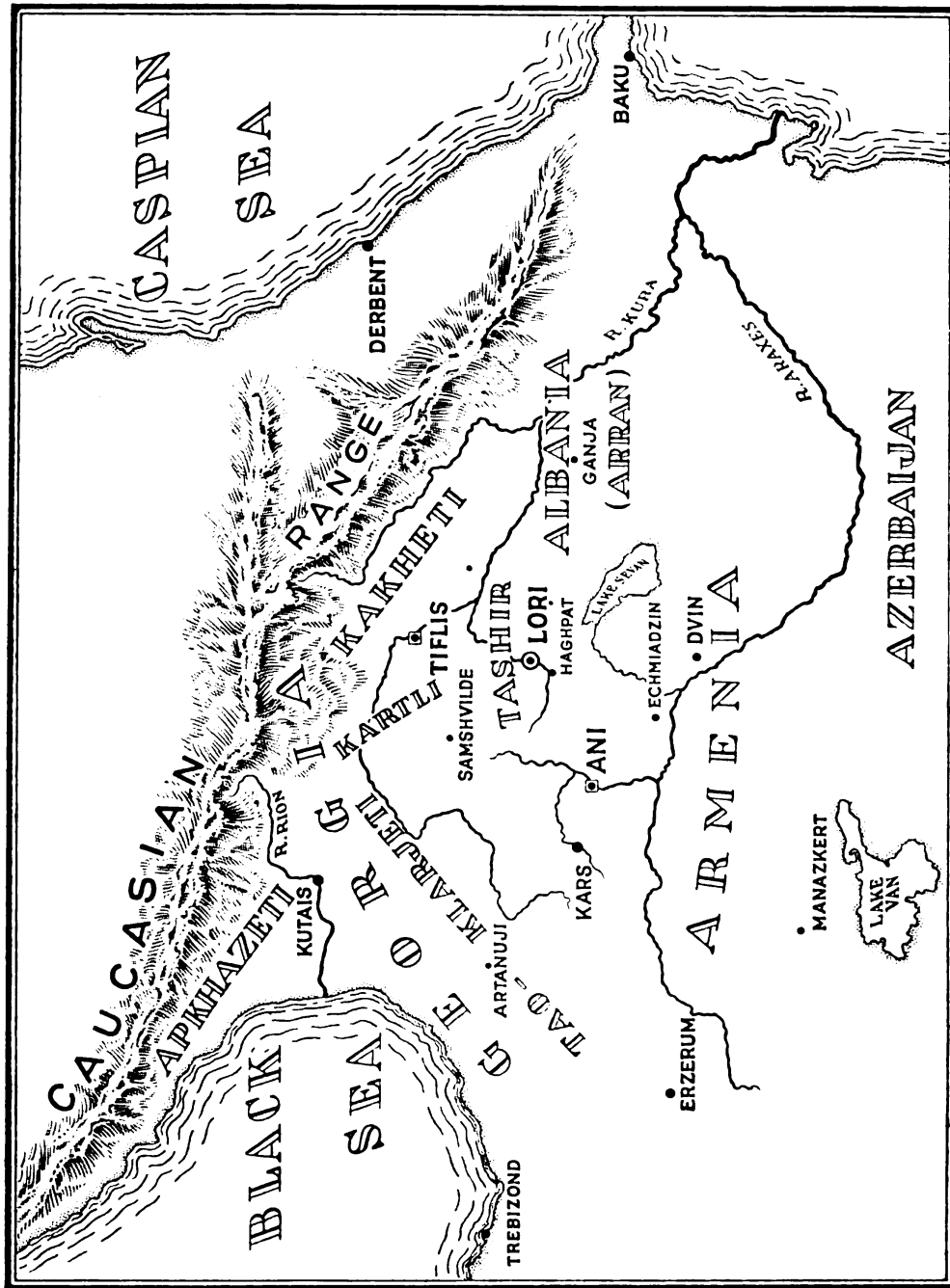
The author of the article gives a useful check-list of the present location of the few known Kiurikē coins. He also reproduces the complete reading of their reverse inscription, as decyphered in Sibilian's posthumous work on the Rubenian coins and by Father Ghevond Movsesian in his monograph on the kingdom of Lori.<sup>2</sup>

While it seems that their results were achieved independently, Sibilian and Movsesian were not the first to publish the Kiurikē coin's complete reverse inscription. In an article published in 1866, Victor Langlois, who had earlier made an unsuccessful attempt to interpret the inscription of the St. Petersburg specimen, illustrated the better-

<sup>1</sup> Paul Bedoukian, "A Rare Armenian Coin" (*Museum Notes*, V, 1952), pp. 181-84, Pl. XXIV, Nos. 5-6. The king's name corresponds to the Greek Κυριακός. The forms Kirakos or Giragos are also found.

<sup>2</sup> Gh. Movsesian, "Lori und die Geschichte der Kiurikäer, aus dem Geschlechte der armenischen Bagratiden; Die Münze des Kyropalaten Korike" (*Handes Amsorya*, 1922-23, in Armenian), and as separate publication, Vienna, 1923; French translation by F. Macler, "Histoire des Rois Kurikian de Lori" (*Revue des Études Arméniennes*, VII, 1927, fasc. 2), pp. 209-66.





THE KINGDOM OF LORI AND SURROUNDING TERRITORIES  
(XI–XII centuries)

preserved example in the collection of Prince Gagarin in Moscow.<sup>3</sup> This confirmed the correctness of Brosset's earlier hypothetical reconstruction.<sup>4</sup> Below is reproduced Langlois' engraving and reading of the Gagarin specimen:

*Isos-Chrisdos.**Jesus-Christ.*

Tête du Christ de face et nimbée, grènetis au pourtour.

† *Der ok-  
né Gorig-  
ēi gorāi-  
bala-  
din.*

† *Seigneur, sois  
secourable à Gorig  
curo-  
pala-  
te.*

The lack of any date or mint indication on the Kiurikē coins, and the existence of a number of rulers of this name, makes it necessary to resort for their attribution to stylistic and historical evidence.

To deal first with the question of style and design, there can be no doubt that these Kiurikē coins derive from the anonymous bronze coinage of the Emperor John Tzimiskēs and his successors. The type in question shows the bust of Christ, bearded, facing, wearing nimbus, tunic and mantle, with the right hand raised in benediction and the left holding the book of Gospels; the reverse bears, with variants, the formula "Ihsus/Xristus/Basileu/Basile." It is curious to note that the first emperor to employ this combination of types, John I Tzimiskēs (969–76), was himself an Armenian. This particular pattern continued

<sup>3</sup> V. Langlois, "Une monnaie de Gorig, dynaste Bagratide de l'Albanie Arménienne" (*Revue de la Numismatique Belge*, 1866), pp. 186–89. This specimen was disposed of in the Gagarin sale in 1885 (A. Weyl, *Verzeichnis der reichhaltigen Sammlung . . . des Fürsten G. . .*, Berlin, 1885, No. 1982).

<sup>4</sup> M.–F. Brosset, *Monographie des Monnaies Arméniennes* (St. Petersburg, 1839), No. 1.

in use under Basil II Bulgaroktonos (976–1025) and his brother, co-ruler and successor, Constantine VIII (1025–28), and, with modifications, under Romanus III (1028–34).<sup>5</sup>

To make the resemblance clear, the St. Petersburg and ANS specimens of the Kiurikē coins are illustrated (PLATE XIX, 5–6) together with their Byzantine prototypes (PLATE XIX, 3–4).

According to General Bartholomaei,<sup>6</sup> these anonymous bronzes of John Tzimiskes and his successors are among the types of coins found in Transcaucasia in “grande profusion.”

In the face of this evidence, Langlois' attempt to derive the Armenian design from the Byzantine-type coinage of Tancred of Antioch (1100–1103) cannot now be maintained.<sup>7</sup>

It may thus be stated with confidence that the style of Kiurikē's coins was evolved not before A.D. 970, and probably within the following hundred years or so. This strengthens the epigraphic evidence, which tends to relate it to the late 10th or the 11th century.<sup>8</sup>

We now have to consider which of several medieval Armenian rulers called Kiurikē struck the coins. The possibilities are:—

1. Kiurikē I of Tashir, often styled King of Albania, and also known as Gurgen I (979–89).
2. Kiurikē II of Tashir, dynast of Lori (1048–ca.1100).
3. Kiurikē III of Tashir, lord of Matsnaberd (1146–85).
4. Kiurikē IV (1232–45).

<sup>5</sup> Sabatier, *Description générale des monnaies byzantines*, II, pp. 142–44, Pl. XLVIII; Wroth, *BMC., Imperial Byzantine Coins*, II, pp. 480–83; Goodacre, *Handbook of the Coinage of the Byzantine Empire*, II, pp. 211, 225; A. R. Bellinger, *The Anonymous Byzantine Bronze Coinage* (NNM 35, New York, 1928), p. 5 (Class I), Pl. I, Nos. 2–6. These anonymous Byzantine coppers are discussed by Miss Margaret Thompson, *The Athenian Agora*. Vol. 2. *Coining: From the Roman through the Venetian Period*. (Princeton, 1954), pp. 109–15. Reference may also be made to the six articles published by P. D. Whitting and C. H. Piper in *Seaby's Coin and Medal Bulletin*, 1949–51 (“The Anonymous Byzantine Bronze,” “Another Byzantine Anonymous,” etc.).

<sup>6</sup> J. Bartholomaei, *Lettres Numismatiques et Archéologiques relatives à la Transcaucasie*, (St. Petersburg, 1859), pp. 20, 68.

<sup>7</sup> V. Langlois, *Numismatique de l'Arménie au Moyen Age* (Paris, 1855), pp. 29–30.

<sup>8</sup> Movsesian, in *Revue des Études Arméniennes*, 1927, p. 265; Bedoukian, *op. cit.*, V, p. 184.

5. One of the princes of Taik'or Tao-Klarjet'i bearing the name Gurgen/Kiurikē.<sup>9</sup>

It will be most convenient first to dispose of the last alternative on the list. This was put forward by Movsesian, who found it hard to conceive that rulers with the title of king ("T'akavor") of Lori should demean themselves to the simple dignity of Kuropalates on their coins. This objection has no serious foundation, however, in view of the well-known fact that the most prominent local dynasts on the fringes of the Byzantine empire vied eagerly for the dignity of Kuropalates, the granting of which signified favour and recognition by the Byzantine court. They were far indeed from being scornful of such a title, as is shown for example by the inscriptions on religious buildings in Georgia where the kings' Byzantine titles are proudly enumerated. Highly significant is the fact that David the Great, Duke of Tao and Kuropalates of Iberia (983–1001), uses on his coins no other designation than that of Kuropalates.<sup>10</sup>

The Bagratid princes of Tao-Klarjet'i bearing the name of Gurgen/Kiurikē to whom Movsesian would attribute the Kiurikē coins are ineligible for several other reasons. Those Gurgens enumerated in the passages of the Georgian Chronicle cited by Movsesian died by the year 968, making them too early in time, while Gurgen II, King of Kings (994–1008), had as predecessor and successor monarchs who inscribed their coins in nothing but Georgian (David the Great), or Georgian and debased Arabic (Bagrat III),<sup>11</sup> and in any case is known to have sought the dignity of Kuropalates in vain.

In general, the Georgian branch of the Bagratid family had since the days of the great Ashot, Kuropalates and lord of Artanuji (787–826), become completely identified with Georgian national aspirations.<sup>12</sup> The stone relief at Opiza portraying Ashot Kuropalates

<sup>9</sup> Prince C. Toumanoff writes to me that he is doubtful whether the Gurgens of Tao were ever called Kiurikē, as Father Movsesian asserts, and further points out that contemporary (9th–10th century) Armenian sources use the then Armenian equivalent: Gūrgēn.

<sup>10</sup> E. A. Pakhomov, *Monety Gruzii* (St. Petersburg, 1911), pp. 55–57; J. de Morgan, *Histoire du Peuple Arménien* (Paris, 1919), pp. 141, 147.

<sup>11</sup> See Brosset, *Histoire de la Géorgie*, I, pp. 272, 285; Pakhomov, *Monety Gruzii*, pp. 54–61.

<sup>12</sup> Berdzenishvili, Javakhishvili and Janashia, *Istoriya Gruzii*, I (Tiflis, 1946), pp. 152–67; cf. also Constantine Porphyrogenitus, *De administrando imperio*,

is accompanied already by a Georgian, not an Armenian inscription.<sup>13</sup> Even the patriotic Armenian scholar, Father J. Dashian, states that by the period under review, the Bagratids of Iberia “étaient déjà Géorgiens.”<sup>14</sup> The Georgian Orthodox church, under the impetus of St. Gregory of Khandzt’a’s pioneering work, now exercised full control over the religious and cultural life of Tao-Klarjet’i. The idea of inscribing their coins in Armenian would have been inconceivable to any of the 10th century Bagratids of Tao-Klarjet’i, or Taik’, as the region is known in the earlier Armenian sources.

We are now left with the four Armenian kings named Kiurikē who ruled over the borderland between K’art’li and Armenia, including Tashir and portions of Transcaucasian Albania (Aghuank’ or Arrān).

The third and fourth Kiurikēs may be excluded on several grounds, the principal one being that the dignity of Kuropalates was by their time completely debased and discredited following the institution of the new series of Byzantine honorific titles by Alexis I Comnenus (1081–1118), and was no longer bestowed on foreign dynasts, however small their domains.<sup>15</sup> The granting of the office of Kuropalates to Kiurikē III (1146–85)<sup>16</sup> would have been a glaring anachronism.

One also has to take into account the fact that the Seljuk onrush following the disaster at Manazkert in 1071 cut off Great Armenia forever from direct contact with Byzantium. The custom of bestowing Byzantine titles on the kings of Georgia, moreover, ceased with King David the Builder (1089–1125). By the mid-12th century, the Kiurikians of Tashir had lost most of their domains to the Georgians, who

ed. Moravcsik and Jenkins (Budapest, 1949), chap. 46: “Of the genealogy of the Iberians and of the city of Ardanoutzi.”

<sup>13</sup> Sh. Amiranashvili, *Istoriya Gruzinskogo Iskusstva* (Moscow, 1950), Pl. 111.

<sup>14</sup> J. Dashian, *La population arménienne de la région comprise entre la Mer Noire et Karin (Erzeroum)*, trans. F. Macler (Vienna, 1922), pp. 70–71. We do not propose to enter here into the embattled question of the earliest ethnic origins of the Bagratid family.

<sup>15</sup> L. Bréhier, *Les institutions de l'Empire Byzantin* (Paris, 1949), pp. 138–42; C. Toumanoff, “Iberia on the Eve of Bagratid Rule” (*Le Muséon*, LXV, 1952), pp. 45–46.

<sup>16</sup> H. Ajarian, *Dictionary of Armenian Proper Names*, II (Erivan, 1944), p. 639 (in Armenian) follows Stephen Orbelian in giving 1170 as the date of Kiurikē III’s death. (For this and other references to the literature in Armenian, I am indebted to Professor S. Der Nersessian of the Dumbarton Oaks Byzantine Institute in Washington).

bestowed the fief of Lori on the Orbelianis, so that the family was now in very straitened circumstances.<sup>17</sup>

The same objections apply with even greater force to Kiurikē IV (1232–45), in whose time the Mongols overran Transcaucasia, while Constantinople was occupied by the Latins.<sup>18</sup>

This leaves Kings Kiurikē I (979–89) and Kiurikē II (1048–ca.1100).

Kiurikē I of Tashir, also referred to as Gurgen of Albania, was the son of the Bagratid king Ashot III of Ani and the founder of the Kiurikian or Gorigian line. He made little mark on the history of his time. The kingdom of Tashir was then one of several minor Armenian principalities paying nominal allegiance to the monarchy of Ani, now flourishing under Sembāt II (977–89).<sup>19</sup> As Movsesian remarks, it would be surprising if Kiurikē I had arrogated to himself the right to issue his own coinage when the senior Bagratids of Ani did not see fit to do so for themselves.<sup>20</sup> Nor does the history of the period show any reason for the Byzantine Emperor Basil II to have singled out Kiurikē I for the dignity of Kuropalates. It may also be objected that the Byzantine bronze coin type from which the Kiurikē coin was copied had only recently been introduced, and would scarcely yet have become familiar in remote Tashir.

It remains to consider the stronger claims of Kiurikē II of Tashir, dynast of Lori (1048–ca.1100). Kiurikē II succeeded to a principality greatly enlarged by his valiant and ambitious father, David Anhoghin, whose domains extended to the environs of Tiflis. David won victories over the Amir of Dvin and other Muslim rulers of Transcaucasia, and at one time came close to seizing the Armenian capital of Ani itself.<sup>21</sup> In 1045, Constantine Monomachus, after luring King Gagik II to his court, took possession of Ani and installed a Byzantine military administration.

<sup>17</sup> Movsesian, *Revue des Études Arméniennes*, 1927, pp. 247–48.

<sup>18</sup> *Ibid.*, p. 256; H. Ajarian, *Dictionary of Armenian Proper Names*, II (Erivan, 1944), p. 639.

<sup>19</sup> J. de Morgan, *Histoire du Peuple Arménien* (Paris, 1919), pp. 140–43; R. Grousset, *Histoire de l'Arménie* (Paris, 1947), pp. 483–509 and map between pp. 529–30.

<sup>20</sup> Cf. Movsesian, *Revue des Études Arméniennes*, 1927, p. 265.

<sup>21</sup> Grousset, *Histoire de l'Arménie*, pp. 564–70; Movsesian, *Revue des Études Arméniennes*, 1927, pp. 234–40; V. Minorsky, *Studies in Caucasian History* (London, 1953), pp. 41–53.

It was at this juncture that Kiurikē II came to the throne of Lori. The Armenians looked to him to perpetuate the national monarchy. "Our royal sceptre was suppressed," records Kirakos of Ganja, "but there remained a few princes, such as Kiurikē, of the Bagratid family, in the town of Lori and its environs."<sup>22</sup> Samuel of Ani writes: "The staff of authority, it is true, was maintained in certain places, as with Kiurikē and elsewhere."<sup>23</sup> The Byzantine occupation authorities in Ani were hard-pressed by the advancing Seljuks, and did not venture to incur further liabilities by attempting to annex Lori, whose dynasts provided a useful bulwark on the Byzantine left flank.

There is thus good reason to suppose that the Byzantine court tried to secure Kiurikē's goodwill and co-operation by conferring on him the title of Kuropalates. Kiurikē's brother-in-law, King Bagrat IV of Georgia (1027-72) held the dignities of Sebastos and Nobilissimus, and Bagrat's successor, Giorgi II (1072-89), that of Caesar.<sup>24</sup> According to protocol, the rank of Kuropalates would have given Kiurikē II just the right degree of standing vis-à-vis his more powerful Georgian contemporaries.

With regard to the numismatic evidence, the arrival of Imperial troops at Ani in 1045 necessarily put extra quantities of Byzantine money of the lower denominations into circulation in Armenia. The appearance of the bronze coins of John Tzimiskes and his successors, copied on the Kiurikē coins, would have been perfectly familiar around the time of the accession of Kiurikē II in 1048.

The main events of Kiurikē II's reign include the capture of Ani from the Byzantines by Alp Arslan in 1064; the seizure of Samshvilde from Kiurikē by Bagrat IV of Georgia in 1065; Alp Arslan's expedition against Georgia in 1068, in the course of which Kiurikē offered his submission to the Seljuk conqueror; the catastrophe of Manazkert and capture of the Emperor Romanus Diogenes by the Turks in 1071; the consecration at Haghbat, under Kiurikē's auspices, of the

<sup>22</sup> Trans. M.-F. Brosset, *Deux Historiens Arméniens*, fasc. I (St. Petersburg, 1870), p. 49.

<sup>23</sup> M.-F. Brosset, *Collection d'Historiens Arméniens*, II (St. Peterburg, 1876), pp. 446-47.

<sup>24</sup> Pakhomov, *Monety Gruzii*, pp. 61-77.

Catholicos Barsegh of Armenia in 1081; and Kiurikē's state visit to the Seljuk ruler Malik Shāh of Persia in 1089.<sup>25</sup>

Both negatively, by process of elimination, and positively, by weighing the historical evidence, a strong case can be made for ascribing the Kiurikē coins to Kiurikē II (1048–ca.1100), king of Tashir and part of Transcaucasian Albania. To be more precise, their minting probably occurred between Kiurikē II's accession and the main Seljuk invasion of Armenia, *i.e.*, between 1048 and 1064.

It is not claimed that this attribution is an original one. We find it taken for granted by J. deMorgan in 1919.<sup>26</sup> Six years later, the eminent Russian numismatist, E. A. Pakhomov, devoted a special note to the problem. Pakhomov had examined four specimens of the Kiurikē coin, separate and distinct from those available to Langlois, Movsesian and Bedoukian: one belonged to an Armenian resident at Leninakan (Aleksandropol'), another to a silversmith at Akhaltsikhe, and two more to M. Ter-Oganezov at Tiflis. Pakhomov gave the Armenian orthography of Kiurikē's title of Kuropalates as KORAT-PAGHAT, which seems preferable to Movsesian's KORAYPAGHAT, and is closer to the contemporary Georgian spelling of KURAT-PALATI. Pakhomov comes out strongly in favour of the ascription of these coins to Kiurikē II of Tashir, dynast of Lori.<sup>27</sup> In a supplementary note to Pakhomov's article, L. Melikset-Bekov gives a summary of Movsesian's argument in favour of attributing the coins to one of the Bagratids of Tao-Klarjet'i — an argument of which we have been at some pains to dispose.<sup>28</sup>

In view of all the controversy aroused by the unique monetary type of Kiurikē the Kuropalates, a re-examination of the problem seemed now to be due. It may be hoped that these remarks will throw a little fresh light on the only truly Armenian coin of mediaeval Great Armenia.

DAVID M. LANG

<sup>25</sup> Movsesian, *Revue des Études Arméniennes*, 1927, pp. 240–45; Grousset, *Histoire de l'Arménie*, pp. 610–15; Vardan (Venice, 1862), p. 100; Makar Barkhoutarian, *History of the Albanians* (Echmiadzin, 1902, in Armenian), p. 180; Minorsky, *Studies in Caucasian History*, p. 66.

<sup>26</sup> J. de Morgan, *Histoire du Peuple Arménien*, p. 146.

<sup>27</sup> E. A. Pakhomov, "O monete Korikē kuropalata" (*Izvestiya Kavkazskogo Istoriko-Arkheologicheskogo Instituta*, III, Tiflis, 1925), pp. 37–45.

<sup>28</sup> L. Melikset-Bekov, "Po povodu stat'i E. A. Pakhomova 'O monete Korikē kuropalata'," *ibid.*, pp. 46–48.





## COINAGE OF CONSTANTINE III AND IV, KINGS OF LESSER ARMENIA

(SEE PLATE XX)

The coinage of the Armenian Dynasty of Cilicia, or Lesser Armenia (1080–1375), has been the subject of study by a number of authors. The works of Brosset,<sup>1</sup> Langlois,<sup>2</sup> Sibilian,<sup>3</sup> and Basmadjian<sup>4</sup> are especially worthy of mention. The first two, which are in French, have long been outdated and contain such a large number of inaccuracies that they are no longer of any numismatic value. Sibilian's book, written almost a hundred years ago though published later, remains the classic treatise on the subject. It is a reliable source of information except for pages 60–72 which are now known to be incomplete and partially inaccurate in the light of historical documents since discovered. Basmadjian's book, though more recent, is actually of less value to the reader insofar as the coinage of Lesser Armenia is concerned. Aside from these major works, a number of articles published in various journals deal with the coinage of this period, among them the recent studies of Garabetian<sup>5</sup> are worthy of mention.

The study of the coinage of Lesser Armenia presents problems which are as yet unsolved. The purpose of this paper is to give the author's solution to one of these, namely, the identification of the coins of Constantine III (1344–1363), and Constantine IV (1365–1373). The historical details of the latter period of the kingdom were un-

<sup>1</sup> M. Brosset, *Monographie des Monnaies Armeniennes*, Bull. hist.-phil. de l'Academie des Sciences de St. Petersburg, VI, 1840.

<sup>2</sup> V. Langlois, *Numismatique de l'Armenie au Moyen Age* (Paris, 1855).

<sup>3</sup> C. Sibilian, *Classification of Roupenian Coins* (Vienna, 1892) (In Armenian).

<sup>4</sup> K. J. Basmadjian, *Numismatique generale de l'Armenie* (Venice, 1936) (In Armenian).

<sup>5</sup> B. Garabetian, *Hask*, Annual Number 1949–1950, pp. 16–21; *Hask*, 19, Nos. 9–10, 1950, pp. 274–280; *Hask*, 21, No. 2, 1952, pp. 48–55 (Antelias, Lebanon) (In Armenian); *Pazmaveb*, Nos. 7–9, 1952, pp. 155–168 (Venice, Italy) (In Armenian).

certain until the discovery in 1850 of the Chronicle of Dardel, the secretary and confessor of the last king of Lesser Armenia, Leo V Lusignan (1374–1375).

This manuscript was later published in the *Recueil des Historiens des Croisades, Documents Armenien*.<sup>6</sup> Dardel's Chronicle establishes the following chronology of the later rulers of this kingdom:

Constantine II or Guy de Lusignan . . .	1342–1344
Constantine III . . . . .	1344–1363
Leo the Usurper . . . . .	1363–1365
Constantine IV . . . . .	1365–1374
Leo V Lusignan . . . . .	1374–1375

The coinage of the first king named Constantine (1298–1299) presents no problem since it is of a type completely different from the later Constantines. Constantine II was known as Guy, and his name so appears on his coins. Identification of the coins of Constantine III and IV, however, could not be accurately made because there was a great deal of similarity in the type and style of the coins of these two rulers, and no factual proof was offered differentiating one from the other. In his discussion of the coins of these two kings, Sibilian is somewhat indefinite and uncertain and ascribes only a few coins of considerable rarity to Constantine III who ruled for 19 years, and all the other Constantines to Constantine IV who ruled for only 8 years.

The writer's collection of coins of Lesser Armenia includes about 50 coins belonging to these two monarchs. A close study of these coins with due attention to their styling and particularly to the specific gravity of each coin made possible their division into two distinct classes. As can be seen from the following tables, those of Table I have specific gravities of 9.50 or over and those of Table II, 9.30 or under. It is significant that none of the coins had specific gravities between the values of 9.30 and 9.50. Since the specific gravity is a measure of the silver content,<sup>7</sup> and since during the time of Constantine IV the kingdom was in dire straits and nearing its end,

<sup>6</sup> Volume II, Paris (1906)

<sup>7</sup> E. R. Caley, "Estimation of Composition of Ancient Metal Objects. Utility of Specific Gravity Measurements," *Analytical Chemistry*, XXIV (1952), p. 676.

it is only logical to assume that the coins of Table I belong to Constantine III and those of Table II to Constantine IV. Certain historical facts also bear this out. In Table I, coins 10, 11 and 28 bear the inscription "struck in the city of Darson." This city was lost forever to the kingdom during the latter part of the reign of Constantine III. Therefore such an inscription could not appear on any coins of Constantine IV.

There is one more significant proof substantiating the writer's identification of the coins of the two rulers. Sibilian on page 57 of his book states that in 1874 a hoard of 120 coins of Lesser Armenia was discovered. Of these, four belonged to Guy de Lusignan (1342 to 1344), seventeen to Leo the Usurper (1363-1365), eight to Constantine of the type 12 in Table I, four with the inscription "struck in the city of Darson," and thirty-five various other types of Constantines. The remainder of the hoard was of earlier rulers of Lesser Armenia. It is noteworthy that Sibilian states that on examining these coins, he found none which were of very poor silver content, but there were some which were of barbaric style. This supports the description of the coins in Table I. In other words, the hoard was buried at the time of Constantine III. Hence, there were no coins of Constantine IV (which have very poor silver content) present in this hoard. It is also clear that the coins of barbaric style (Nos. 20, 21, 25, 22, 23, 24, 26, 27 and 30 of Table I) belong to Constantine III and were probably struck during the latter part of his rule.

Examination of the coins described in Table I and II indicates clearly the difference in styling and appearance. Those of Constantine III are more or less silvery in appearance and generally fairly circular whereas the coins of Constantine IV are darker and more grayish in color and often irregular in shape. The earlier coins of Constantine III have circles, dots, etc., in the field. The later coins have a flat L usually on the obverse side of the coin. The coins of Constantine IV have either the flat L on both sides, an L or S on either side or an S shaped figure on both sides of the coin as indicated in the tables. These signs facilitate greatly the differentiation of the coins of the two monarchs.

The inscriptions on the coins of the two rulers have many similarities in common, but still they do show certain distinct differences.

The full, complete and correct inscriptions (see Table III) are never found on these coins, but instead various abbreviations are found (see Tables I, II and III). It is significant that in spite of the fact that most of the coins of Constantine IV are worn and in poor condition they all clearly possess the almost full inscription "struck in the city of Sis."

In view of the longer rule of Constantine III it is likely that a greater number of variations of the coin type were issued during his reign than during that of the later king. The variations in type are indicated by broader spacing in Table I and II. We thus find ten types in Table I and four in Table II.

In view of the fact that specific gravity determinations clearly differentiate the two classes, and the division is fully supported by the historical data and the style of the coins, there would seem to be little doubt as to the validity of the classification of the coins of Constantine III and IV proposed here. These conclusions, however, are limited to the silver coinage only. No attempt has been made to pass judgement on the copper coins of this period, for only a limited number of them have come to the writer's attention.

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Coin No.	Obverse Field Mark	Reverse Field Mark	TABLE I		Wt. of Coin in gms.	Specific Gravity of Coin
			Obverse Legend	Reverse Legend		
10	o		ԿՈՍՏԱՆԴՆԻՆ ՔԱԳՈՐ	ՇԻՆԱԼ Ի - - - - - ՄԱՐ	2.050	9.57
11	o		ԿՈՍՏԱՆԴՆԻՆ ՔԱԳՈՐ	ՇԻՆԱԼ Բ - - - - - ՄՐ	1.881	—
28	3		ԿՈՍՏԱՆԴՆ - - - -	ՇԻՆԱԼ ԲԱՂԱԲ Ի ՄՐ	1.841	9.50
12	•	•	ԿՈՍՏԱՆԴՆԻՆ ՔԱԳ	ՇԻՆԱԼ - - - - - Ի ՍԻԼ	21.94	9.68
19	•	•	ԿՈՍՏԱՆԴՆ - - - -	ՇԻՆԱԼ ԲԱՂԱԲ - - -	1.827	9.51
14	•	h	ԿՈՍՏ ՔԱԳԱԽՐ 13	ՇԻՆԱԼ ԲԱՂԱԲԸ Ի Ս	2.220	9.61
15	•	•	ԿՄԸՂՆ ՔԱ ԷԱՅՈՒՆ	ՇԻՆԱԼ ԲԱՂԱԲԸ ՍԻ	2.161	9.61
16	•		" " " "	" " "	2.251	9.78
29	•	•	" - - - -	" " "	1.481	—
17	4		ԿՈՍՏԱՆԴՆԻՆ ՔԱԳ 16	ՇԻՆԱԼ ԲԱՂԱԲԸ Լ	2.075	9.62
13	4		ԿՈՍՏԱՆԴՆԻՆ ՔԱԳ	" " "	1.978	—
18	❖		ԿՈՍՏԱՆԴՆԻՆ ՔԱԳԱԽՐ 13	" " ՍԻ	2.080	9.62
20	•		ԿՈՍՏԱՆԴՆ - - - -	- - - ԳԱՂԱԲ - - -	1.964	9.82
21	•	•	ԿՈՍՏԱՆԴՆ ՔԱ 13	ՇԻՆ - - ԿԱԳ Ի Ս	2.025	9.62
25	•	•	ԿՈՍՏ - - - - 13	ՇԻՆԱԼ Ի ԲԱՂԱԲԸ Ս	2.111	9.77
22	•	•	ԿՈՍՏ - - ՔԱ 13	ՇԻՆԱԼ ԳԱՂԱԲ Ս	1.974	9.62
23	•		ԿՈՍՏ - - ՔԱ 1 -	ՇԻՆԱ ԲԱՂԱԲԸ Ի -	1.880	9.68
24	•	•	ԿՈՍՏԱՆԴՆ ՔԱ 1	- - Կ ԳԱՂԱ - - -	1.764	9.60
26	Լ		ԿՈՍՏ - - - 102	ՇԻՆԱԼ Ի - - - -	2.044	9.76
27	Լ	Ը	ԿՈՍՏԱՆԴՆ ՔԱ 1	ՇԻՆԱԼ Ի ԲԱՂԱԲԸ -	2.172	9.70
30	Լ		ԿՈ - - - ՔԱ 4	ՇԻՆԱԼ Ի ԲԱՂԱ - -	1.872	—

Specific Gravity of Corroded Coins Omitted

Coin No.	Obverse Field Mark	Reverse Field Mark	TABLE II		Wt. of Coin in gms.	Specific Gravity of Coin
			Obverse Legend	Reverse Legend		
110	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ ԲԱԳԱՆ ԷԶ	ՇԻՆԵԱԿ Ի ՔԱՅԱՔԱՐ Ի ՍԱՄ	1.990	9.30
114	5	5	" " 4	" " " " "	1.935	9.30
115	5	5	" " 4 S	" " " " "	2.182	9.30
112	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ ԲԱԳԱՆ Է	ՇԻՆԱԿ " " " "	2.003	9.23
113	5	5	" " 4 S	" " " " "	1.930	9.25
116	5	5	" " 4 ՈՅ	" " " " "	2.175	9.21
118	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ ԲԱԳԱՆ ԷԶ	" " " " "	1.880	9.23
130	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ " "	" " " " "	2.137	9.20
132	5	5	" " " "	" " " " "	2.340	9.19
134	5	5	" " " "	" " " " "	2.259	9.14
135	5	5	" " " "	" " " " "	2.215	9.22
136	5	5	" " " "	" " " " "	2.184	9.23
111	5	5	" " " "	" " " " "	2.226	9.27
122	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ ԲԱԳԱՆ Է	" " " " "	2.228	9.05
123	5	5	" " 4 ՈՅ	" " " " "	1.943	9.12
137	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ ԲԱԳԱՆ Է	" " " " "	2.105	9.15
121	5	5	" " 4 ՈՅ	" " " " "	2.291	9.11
128	5	5	" " 4 ՈՅ	" " " " "	2.006	9.16
127	5	5	" " " "	" " " " "	2.275	9.13
126	5	5	" " 4 ՈՅ	" " " " "	2.213	—
125	5	5	" ԲԱԳԱՆ ՈՅ	" " " " "	1.952	—
124	5	5	" " ՈՅ	" " " " "	2.015	—
131	5	5	" " " "	" " " " "	2.105	9.22
129	5	5	" " 4 ՈՅ	" " " " "	2.216	9.27
133	5	5	" " 4 ՈՅ	" " " " "	2.326	9.30
120	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ — ԷԶ	ՇԻՆԱԿ " " " "	2.273	9.13
141	5	5	" ԲԱԳԱՆ ԷԶ	" " " " "	1.871	9.28
138	5	5	ԿՈՍՏԱՆԴՆՆԱԿԱՆ " "	" " " " "	2.198	9.22

TABLE III

Complete Inscription of Coins	Abbreviations Used
<p>ԿՈՍՏԱՆԴԻՆ ԲԱԳԱՒՈՐ ՀԱՅՈՑ  GOSDANTIN TAKAVOR HAIOTZ  CONSTANTIN KING OF ARMENIANS</p>	<p>ԿՈՍՏԱՆԴԻՆ, ԿՈՍՏԱՆԴ ԵՒ.  ԲԱԳԱՎ, ԲԱԳԱՎ, ԲԱ ԵՒ.  ՀՈՑ, ՀԲ, Հ ԵՒ.</p>
<p>ՇԻՆԵԱԼ Ի ՔԱՂԱՔՆ Ի ՍԻՍ  SHINEAL E KAGHAKN E SIS  STRUCK IN THE CITY OF SIS</p>	<p>ՇԻՆԱԼ, ՇԻՆԵԼ, ԵՒ.  ՔԱՂԱՔ, ԳԱՂԱՔ ԵՒ.  ՍԻ, Ս, ԵՒ.</p>





## A CONTEMPORARY GOLD MEDAL OF MARTIN LUTHER

(SEE PLATE XXI)

Through the courtesy of Mr. Alastair Bradley Martin of New York, The American Numismatic Society has received on loan an outstanding contemporary medal of Luther. This Renaissance medal can be described as follows:

*Gold medal, 1521, by Hans Glimm and Peter Floetner, made of two uniface medals joined together.*

Bust in low relief to left. Legend starting at the bottom clockwise HERESIBVS. SI. DIGNVS. ERIT. LVTHERVS. IN. VLLIS – ET. CHRISTVS. DIGNVS. CRIMINIS. HVIVS. ERIT + The date 15 Z 1 engraved into the left field.

*Rev.* Bust of Christ right, draped, with small upstanding locks in the middle of the forehead; hair in long curls on the shoulders; beard fairly short and curly. Above the head the holy dove. In the left field there is the following inscription: ICH BIN / DAS LEM / LEIN DAS / DER WE/LT SVND / TREGT JO / HANES / AM (I am the lamb that taketh away the sin of the world, from John I); in the right field: I. CAPT / NIMANT / KVMP / ZV DEM / VATER D / AN DVRCH / MICH IO / AM XIII (No man cometh unto the Father but by me, from John XIV, 6). Habich 721. 61 mm. 87.8 gr. PLATE XXI.

Habich lists four specimens of the obverse which were probably cast in lead. These are or were in the collections at Berlin, Vienna, Gotha, and Weimar. They differ from each other in that the Berlin and Weimar specimens have the date in Arabic numerals and the artist's initials incuse, while the Vienna specimen has the date in Roman numerals without the artist's initials. The Gotha specimen resembles the Berlin specimen in all respects except that the date and initials are in relief. An additional copy came up for sale in the Belli collection sold by Sally Rosenberg in November, 1904. This example was cast in silver with a reverse showing a long inscription. The gold

specimen on loan to The American Numismatic Society was formerly in the collection of the "Chorherrenstift" at Klosterneuburg, Austria.

The portrait of Luther on this medal shows a striking similarity to the engraving done by Lucas Cranach in 1521 before Luther's departure for Worms.<sup>1</sup> The combination of this obverse with the Christ reverse was recorded for the first time in Juncker's *Das Guldene und Silberne Ehren-Gedaechtniss D. Martini Lutheri* where a drawing of the medal is to be found.<sup>2</sup> In a note Junckers tells of the owner of the medal. "Die Copiam von dieser schönen silbernen Medaille hat Herr D. Rundisch, ein beruehmter und curieuser Medicus zu Altenburg in Meissen aus seinem Museo mir gegönnet."<sup>3</sup> (The copy of this beautiful silver medal has been lent to me from the museum of D. Rundisch, a famous and inquisitive physican at Altenburg in Meissen). The combination of Luther's portrait with a bust of Christ and the legend on the obverse express very forcefully the view that Christ himself would be guilty of heresey if Luther's teachings were branded as such.

The medal is dated 1521, and there is little doubt that it was cast in that year. It is more difficult to come to definitive conclusions about the artist who engraved the obverse side. The Berlin, Gotha, and Weimar pieces show the monogram HG under the bust. Habich in his corpus of German Renaissance medals states that the name of this medallist is unknown. In his earlier work *Die deutschen Medailleure des XVI. Jahrhunderts*, which was published in 1916, Habich mentions the possibility that the artist of this medal was either Hans Guldenmund or Hieronymus Gaertner. He goes on to say, however, that the character of the medal does not permit the definitive conclusion that it was created by a Nuremberg artist. Dr. Behrend Pick, the late curator of the Ducal Cabinet in Gotha, thought that the signature HG might stand for the author of the distich. He was also inclined to attribute this medal to Lucas Cranach himself.

The reverse of this medal with the bust of Christ was engraved by Peter Floetner who settled some time before 1523 in Nuremberg.

<sup>1</sup> Cf. Lippmann, *L. Cranach*, Plate 62.

<sup>2</sup> Juncker, *Das Guldene und Silberne Ehren-Gedächtnis D. Martini Lutheri*, p. 59.

<sup>3</sup> *Ibid.*, p. 60, note.

This suggests that the medal most probably originated in Nuremberg. Max Bernhard in his *Reformatorenbildnisse auf Medaillen der Renaissance* suggested that the Nuremberg goldsmith Hans Glimm was the medallist who created this medal. Glimm was a friend of Dürer who in turn had a very close relationship with Lucas Cranach. It seems very probable, therefore, that the artist whose initials were HG may have been Hans Glimm who was very well known for his skill and ability in chasing large size silver plaques as well as for his talent as an engraver. Stylistic examination of the piece, however, does not yield any greater certainty regarding the creator of this Luther medal, which is unique in its treatment and conception. Only the discovery of some hitherto unknown documents will prove conclusively whether or not Glimm deserves the credit for having produced this fine example of German Renaissance medallic art.

HENRY GRUNTHAL



## THE MEDALS OF THE FREE CITY OF NUREMBERG FROM 1782 TO 1806

(SEE PLATES XXII–XXVI)

In Volume II of *Museum Notes* an attempt was made to continue Im Hof's work on the coins of the Free City of Nuremberg which was published in 1782 up to the end of the city's coinage in 1807.

A similar attempt will now be made for Im Hof's companion volume on the medals of Nuremberg. However, while it is self-evident what constitutes a coin of the Free City, it is not so in the case of medals. There is no conclusive and generally accepted definition, but pending a general revision of Im Hof's work, this study is intended primarily as a supplement to it, and thus the most logical course is to accept Im Hof's own definition. This means that the present listing will show all medals which satisfy one of the following conditions: a) they refer to a historical event that took place within the city or its territory, b) they have a view of the city or a building in it or its territory, c) they show the coat of arms of the city, d) they mention the city by name (except merely as a mintmark), e) they show the portrait, the name or the coat of arms of a Nuremberg citizen (except for engravers' or mintmasters' names or initials). Consequently, medals and jetons will not be included merely because they were made in Nuremberg or executed by a Nuremberg engraver.

As for the period to be covered, there was again no question in the case of the coins since they simply ceased after the city had lost its independence, and with it its coinage rights. The production of medals, however, continued, and while the nineteenth century medal is a fundamentally different product from its eighteenth century predecessor, this would not have dictated any particular year as the cut-off point. Thus we have decided, perhaps after all not too arbitrarily, to end our listing with the medal on the incorporation of Nuremberg into the Kingdom of Bavaria. This melancholy symbol of past greatness lost to inexorably changing economic conditions and

the cataclysmic events of the Napoleonic Wars makes, we think, a convenient resting place on the unending road of history from which to survey the medallic products of the last years of the Republic of Nuremberg.

A word must also be said about the engravers represented on these medals. Almost all of the well-known Nuremberg engravers of the eighteenth century had in 1782 already left the scene or were about to do so. The elder Vestner had died in 1740, and his son followed him in 1754. Peter Paul Werner died in 1771, and his son Adam Rudolph, who had been engraver to the Duke of Württemberg in Stuttgart since 1742, was about to follow in 1784. The brothers Loos, Karl Friedrich and Georg Friedrich, ceased to be active before 1780, and Johann Leonhard Oexlein had only a few more years left since he died in 1787. This left of the representatives of the older style only the second son of Werner who continued to be active until the end of the century and whose name, notwithstanding Gebert's categorical but unsupported statement that it was Johann Peter,<sup>1</sup> appears to have been Jeremias Paul as evidenced by the medal listed below.

Following these, however, appear the representatives of a new style that was to flourish during the French Revolution and the early nineteenth century. They are Anton Paul Dallinger born in 1772, and Johann Thomas Stettner born in 1786. In addition we find on our medals the name of Johann Christian Reich who lived in the neighboring town of Fürth in the Brandenburg-Ansbach territory and whose production was prolific if considerably crude. Even Johann Martin Bückle the Augsburg medalist who later went to Durlach in the Margravate of Baden makes an appearance, as does the counter-maker, Ernst Ludwig Sigmund Lauer (1762-1833).

As in the case of the earlier listing of coins, this study is again based on the material in the cabinet of The American Numismatic Society and that in the possession of the author himself, as well as on such other medals as he has actually seen. In that connection particular thanks are due to Professors Gebhart and Grotemeyer of the Bavarian State Coin Collection and Dr. Holzmaier of the Austrian Federal Collection for the kind assistance they have given.

<sup>1</sup> *Geschichte der Münzstätte Nürnberg*, p. 118.

If there are any additional Nuremberg medals of the period in existence, the author would be grateful for information concerning them.

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## CATALOGUE

1. 1782. Society of the Foremost Merchants.  
 Obv. Altar with laurel wreath and caduceus; to the right angel holding a bean; in exergue, FREUNDSCHAFT, HARMONIE UND DAUER (Friendship, harmony and permanence).  
 Rev. Inscription: DEM / IAHRESKÖNIG / GEWIDMET / VON DER MDCLXXI / ERRICHTETEN / GESELLSCHAFT / DER / VORDERSTEN / KAUFLEUTE / ZU NÜRNBERG (Dedicated to the King of the year by the Society of the Foremost Merchants in Nuremberg founded in 1671).  
 36 mm. Gold, 17.4 gr. Silver, 11.8 gr. Pewter.

NOTE: Even though the Society had existed since 1671, no other medal issued by it is known. Two varieties exist of this medal which are very similar but signed by two different engravers, Oexlein (1 A) and Bückle (1 B). Only the Oexlein medal was known to Im Hof (II,



1005.75). The gold and silver specimens in the author's collection are by Oexlein, the pewter specimen by Bückle.

2. 1784. Flood. By Oexlein.

Obv. City goddess praying before bridge; around GOTT SEY UNSERE HÜLFFE IN DEN GROSEN NÖTHEN DIE UNS TROFFEN HABEN (God be our help in the great tribulations that have befallen us).

Rev. ZUM / GEDAECHTNIS / DES DEN 27. FEBR. 1784 / SCHNELL ANGELAUFENEN / UND DEN 28. FEBR. / NOCH HOEHER GESTIEGENEN / VERWÜSTEN DEN GEWAESSERS / WELCHES DIE 1595. IN EBEN / DIESEN TAGEN / EINGEBROCHENE / ÜBERSCHWEMMUNG / ÜBER 2 SCHUH NOCH / ÜBERTRAF (In commemoration of the devastating flood which rose quickly on 27 Feb. 1784 and rose even higher on 28 Feb. and exceeded the flood that took place during the same days in 1595 by 2 feet).

46 mm. 22 gr. Silver, also in pewter. Brettauer, No. 1843.

NOTE: This devastating flood of the Pegnitz river took place in Nuremberg on 27 and 28 February 1784 and is one of three that were especially commemorated by medals. The other two were on 17 January 1595 (Im Hof 34.34) and 4 and 5 February 1909 respectively.

3. 1784. Flood. By Reich.

Obv. View of the city of Nuremberg and surrounding country inundated by the flood; above a rainbow; around ICH WIL DENCKEN AN MEINEN BUND 1. B. MO: 9 (I shall remember my covenant, Genesis, IX, verse 15); in exergue KLEINE SÜNDFLUT. / D. 27. F: 1784 (The meaning is that it is like the biblical flood only smaller; the second line is the date).

Rev. Stormy sea with several small ships, buildings in background. There are two dies of this reverse:

A) Inscription around ICH BIN IM TIEFFEN WASSER UND DIE FLUTH WILL MICH ERSÄEIFEN (I am in deep waters and the flood will drown me); in exergue PS. 69 V. 3 (Psalm 69, Verse 3), I. C. REICH FECIT.

B) Inscription around ICH BIN IN TIEFEN WASSER U. DIE FLUTH WILL MICH ERSÄEIFE: across center of medal WASSERS NOTH IN EUROPA (Flood peril in Europe); in exergue PS. 69 V. 3 / REICH F.

- 3A. Pewter. 46–51 mm. Brettauer, No. 1845.  
 3B. 44 mm. 28.5 gr. Silver. Pewter, 45–48 mm. Brettauer, No. 1844.  
 4. 1785. Johann Sigismund Moerl. 50th anniversary as a minister. By J. L. Oexlein.  
 Obv. Bust of Moerl to the right.  
 Rev. Inscription in 8 lines.  
 42 mm. 29.5 gr. Silver. Merzbacher Auction (Nov. 16, 1903), No. 1401; Neustätter Price List No. 1 (1898), No. 5526.

NOTE 1: Unfortunately no picture and no more complete description is available.

NOTE 2: Johann Sigismund Moerl was born on March 3, 1710, the son of Gustav Philipp Moerl, minister in Nuremberg, and his wife Christiana Dorothea. He, too, became a minister in Nuremberg.

5. n. d. (1787). Ascension of Blanchard's balloon in Nuremberg. By Reich.  
 Obv. Bust of Blanchard to the right; around BLANCHARD VICESIMUM OCTAVUM FACIENS ITER (Blanchard making his twenty-eighth trip).  
 Rev. City view from the east with balloon above; around GALLIA SAEPIUS AUSIT. IAM GERMANIA PLAU: (France has frequently been daring. Germany now applauds); in exergue NORIMBERGE (At Nuremberg).  
 47 mm. 38.8 gr. Silver, also in pewter. Duisberg, p. 234, No. 5.

NOTE: (Jean-Pierre?) François Blanchard was born in 1738 at Les Andelys (Eure) and died on 7 March 1809 in Paris. In 1785 he was the first to cross the Straits of Dover in a balloon and received a present of 15,000 francs and an annual pension of 1200 francs from the king of France for this achievement. Thereafter he made numerous ascents in balloons in different places including New York where he made his 46th trip. During the 66th ascent made at the Hague in 1808, he suffered a stroke from which he eventually died. He is also the inventor of the parachute. In addition to the two medals on the ascent over Nuremberg, there are also medals commemorating other ascents, e.g., Frankfurt, Leipzig, Breslau, and Warsaw.

6. 1787. Ascension of Blanchard's balloon in Nuremberg. By J. P. Werner.  
 Obv. View of balloon floating in the air; around NIL MORTALIBUS ARDUUM EST (Nothing is hard for mankind).

Rev. In laurel wreath BLANCHARDO / ARTEM / AERONAUTICUM / EXERCENTE / NORIMBERGAE / MDCCLXXXVII (Blanchard exercising the aeronautical art at Nuremberg 1787).

35 mm. 15.45 gr. Silver with loop. Duisberg, p. 234, No. 6; Wellenheim, No. 13261.

7. 1787. Christoph Friedrich Stromer v. Reichenbach. By Bückle.

Obv. Bust left; around C. F. STROMER A REICHENB. S. C. M. CONS. ACT. REIP. NOR. SEN. PRIM. ET SCULT. IMP (Christoph Friedrich Stromer v. Reichenbach, Imperial councillor, foremost senator of the Republic of Nuremberg and Imperial Lord Mayor).

Rev. In laurel wreath VIRO / GENTE / MERITISQVE / ILLVSTRI / EXACTIS IN ORDINE / SENATORIO / ANNIS. L. / HONORIS CAUSA / D. D. / SENAT. REIPVBL. / NORIMBERGENSIS — D. XI. APRIL. / MDCCLXXXVII (Ordered to be given by the senate of the Republic of Nuremberg on 11 April 1787 as a token of honor to a man illustrious by birth and merit on his completion of fifty years in the senate).

48 mm. 36.5 gr. Silver. Forster, No. 510.

NOTE: Christoph Friedrich Stromer von Reichenbach, a member of one of the senatorial families of the City, was born on 10 February 1712 the son of Wolff Adam Friedrich Stromer v. Reichenbach and Susanna Helena Löffelholz v. Colberg. He had been foremost senator (vorderster Losunger, the highest office in the city), and Imperial Lord Mayor (Reichsschultheiss, the representative of the Emperor as Suzerain of the Free Imperial City) since 1764. He died on 4 December 1794.

8. n. d. (1789). Elisabeth Krauss. 150th anniversary of her death. By J. P. Werner.

Obv. Bust left; around FRAU ELISABETH — KRAUSSIN . NAT . 1569 . DENAT . 1639 (Mrs. Elizabeth Krauss, born 1569, died 1639).

Rev. In laurel wreath DAS / GEDAECHTNIS / DES / GERECHTEN / BLEIBET IM / SEESEN (The memory of the just remains blessed).

Square. 27 mm. 7.15 gr. Silver. Wellenheim, No. 14043.

NOTE: Elisabeth Krauss was born in 1569 at Cadolzburg, a village in the Brandenburg-Ansbach territory, as the daughter of a peasant.

At the age of ten she came to Nuremberg as a servant girl and eventually in 1598 she married a young commercial clerk Conrad Krauss who came from the town of Kitzingen, also in Brandenburg-Ansbach. Krauss thereafter went into business by himself, prospered and grew very rich. When Elisabeth Krauss died in 1639, a widow and childless, she left a net estate of fl. 127, 175, a very large sum in those days. The bulk of it went to a foundation which was to provide scholarships for Nuremberg students (cf. Will II, 313 ff). In addition to the klippe of 1789, there are two medals commemorating the 100th anniversary of her death in 1739 (Im Hof, Nos. 815.26 and 816.27) and one on the 250th anniversary in 1889.

9. 1790. Coronation of Emperor Leopold II. By J. P. Werner.  
 Obv. Bust right; around LEOPOLDVS . II . D . G . ROM.  
 IMP. SEMP. AVG.  
 Rev. Altar with coronation insignia, below 3; Nuremberg coat  
 of arms; around SALVTIFER ORBI VENIT (The bring-  
 er of welfare comes to the world); in exergue CORONA-  
 TVS MENSE / OCTOB: 1790 (Crowned in the month of  
 October 1790).  
 45 mm. 29 gr. Silver. Joseph & Fellner, No. 929; Wellenheim,  
 No. 8282.

NOTE 1: Leopold II was born in 1747 the son of Emperor Francis I and Empress Maria Theresia. Upon his father's death in 1765, he succeeded him as Grand-Duke of Tuscany. Upon the death without male heirs of his elder brother Emperor Joseph II, he also succeeded to the Austrian hereditary lands and was elected Holy Roman Emperor, but had to abandon Tuscany to his second son, Ferdinand. The latter during the Napoleonic period had to leave Florence and was successively Elector of Salzburg and Grand-Duke of Würzburg, but returned to Tuscany after Napoleon's fall. Leopold II died after a reign of only two years in 1792.

NOTE 2: There is also a ducat-size gold medal on the accession of his successor Francis II in 1792, and while it does not in any way mention Nuremberg (and thus cannot be listed here), its obverse is from the die of the Nuremberg ducat (*Museum Notes II*, p. 71, No. B2; Adam, No. 56). It is listed in Montenuovo as No. 2271.

10. 1792. 50th anniversary of the Mutual Assistance Fund for Commercial Clerks. By J. P. Werner.

Obv. Two male figures clasping hands above money chest on which caduceus and palm branch; in the background rising sun; around VEREINT ZUR MILDEN GABE (United for charitable gifts); in exergue HILFSKASSE DER NÜRN: / HANDLUNGSBEDIEN: / TEN GESTIFTET / ANNO 1742 (Assistance fund of the Nuremberg commercial clerks, founded 1742).

Rev. Male figure placing wreath on funeral urn; behind setting sun; around NICHT MÜDE BIS ZUM GRABE (Not tiring until the tomb); in exergue DER 50 IAEHRIGEN DAUER / DERSELBEN GE: / WEIHET ANNO / 1792 (Dedicated to its 50th anniversary 1792).

39 mm. 21.8 gr. Silver.

NOTE 1: This fund was established by more than eighty single commercial clerks in 1742 and had a somewhat peculiar constitution, the two chief peculiarities being that only single men could become or continue to be members and that needy members could receive assistance from the fund only if their need was not due to their own fault. (cf. Will III, 89 ff.) Medals also exist on the foundation of the fund in 1742 (Im Hof 178.48) and on its 100th anniversary in 1842, as well on the 1000th meeting of the Fund's board of directors on March 25, 1912.

NOTE 2: The design is by Professor Stoy; the medals were struck by the mintmaster Riedner; 202 pieces were struck, all in silver. There are two obverse dies; the first broke after 130 pieces had been struck. The dies differ very slightly in the design (cf. Gebert, "Die Denkmünzen der Nürnberger Handlungsdiener Hülfskasse," *Num. Mitt.*, 1912, p. 1079).

11. 1792. 200th anniversary of the Medical Society. By J. P. Werner.

Obv. Bust right; around IOACH. IOACH. F. CAMERARIUS. PATR. NOR. M. D. COLL. M. CONDITOR. ET DECAN. PERP. (Joachim, son of Joachim Camerarius, Nuremberg patrician, doctor of medicine, founder and perpetual dean of the Medical Society).

Rev. In laurel wreath: COLLEGIUM / MEDICUM / NORIMBERGENSE / DUO SAECULA / FELICITER PERSTANS. // DIE XXVII. MAII. / CIDIDCCLXXXII. (The Nuremberg medical society happily existing for two centuries, on 27 May 1792).

47 mm. 50.7 gr. Silver, also in pewter and lead. Brettauer, No. 191; Duisberg, p. 107, No. 288, 1.

NOTE: The Medical Society (Collegium Medicum) in Nuremberg was founded on 27 May 1592 by Joachim Camerarius (or Kammermeister) who was born in 1534 and died in 1598. He was the son of a famous humanist and polyhistor of the same name. Holzmaier in his catalogue of the Brettauer Collection says that the portrait on the medal is posthumous and probably based on an engraving by B. Kilian.

12. 1797. Peace of Campo Formio. By Lauer.

Obv. Pax standing in front of city view from the east; around DURCH DEN FRIEDEN WIEDERHERGESTELLT (Restored by the peace); in exergue DEN: 17. OCT: /1797 (The 17th of October 1797).

Rev. A physician bleeding the foot of a female figure reclining in a chair; above flying eagle with 8 young eagles; around DURCH ZU STARKE ADERLÄSSE ENTKRÄFTET (Exhausted by too much bleeding); in exergue IETTON.

29 mm. 6.45 gr. Silver, also in silvered brass and brass. Brettauer, No. 4551.

NOTE 1: The treaty of Campo Formio concluded on 17 October 1797 between France and Emperor Francis II pacified Germany only very temporarily. On 1 March 1799 two French armies once more crossed the Rhine and invaded the Empire and on 12 March Austria declared war.

NOTE 2: The piece is not signed and Holzmaier says it is by Reich. It is, however, more likely that it is by Lauer, as the Schulman Catalogue of the Le Maistre collection, *Pax in Nummis*, has two similar pieces (Nos. 680 and 967) which show Lauer's signature.

13. 1800. Johann Jacob Baier. 50th anniversary of his doctorate. By Dallinger.

Obv. Bust right; around IOHANNES IACOBUS BAIER M. D.NAT. MDCCXXIV (Johann Jacob Baier, doctor of medicine, born 1724).

Rev. SENI / VENERABILI / PER DECEM LUSTRA / VRBIS / SPLENDORI / VITAE / PRAESIDI / MORTIS / DOMITORI / F. C. / COLL. MED. NOR. / D. XI MAII DMCCC (To the venerable patriarch for fifty years an ornament of the city, a protector of life, a tamer of death, ordered to be made by the Nuremberg Medical Society on 11 May 1800).

43 mm. 27.8 gr. Silver. Brettauer, No. 49; Duisberg, p. 137, No. 370.

NOTE: Johann Jacob Baier was born in Nuremberg, 1724.

14. 1800. Johann Adam Bauer. 25th anniversary as president of the Medical Society by Dallinger.

Obv. Bust right; around D. JOH. ADAM BAUER M. ET PHYSIC. ORD. NAT. NOR. MDCCXII (Doctor Johann Adam Bauer of the medical and physical order, born in Nuremberg 1723).

Rev. DOCT. REN. / HELMSTAD / MDCCXLIV / IN INCL. COLL. M. REC. / MDCCXLVI/S. PR. CULMB. BR. CONS. AUL. / MDCCLXV / SENIOR COLL. MED. / MDCCLXX / SENIOR PRIMARIUS / MDCCLXXV / HONORIS GRATIA FC. / COLL. MED. NOR. / D. XI MAII MDCCC (Made a doctor at Helmstadt 1744, received into the renowned medical society in 1746, member of the council of his Highness the prince of Brandenburg-Culmbach 1765, senior in the medical society 1770, senior president 1775, caused to be made in his honor by the Nuremberg Medical Society on 11 May 1800).

43 mm. 28.9 gr. Silver, also in pewter. Brettauer, No. 61; Duisberg. p. 138, No. 373.

15. 1806. Union with Bavaria. By Stettner.

Obv. Bust right; around MAXIMILIAN IOSEPH KOENIG VON BAIERN (Maximilian Joseph King of Bavaria).

Rev. Lion holding city arms (so-called third coat arms, half double eagle left, three diagonal red and white stripes right); behind it a palm tree; around GESCHÜTZT UND GLÜCKLICH (Protected and happy); in exergue DEN 15 SEPTEM. / 1806 (The 15th September 1806).

43 mm. 27.2 gr. Silver, also in pewter. Wittelsbach, No. 2470.

NOTE: Nuremberg was officially taken in possession for the King of Bavaria by his commissioners on 15 September 1806.

16. No Date. Jeremias Paul Werner. By himself (?).

Uniface: Bust right; around JEREMIAS PAUL WERNER MEDAILLEUR (Jeremias Paul Werner Medalist).

43 mm. Lead.

NOTE: The medal is not dated, but since it is not listed in Im Hof, it must be presumed to have been made after his book was published.

HERBERT J. ERLANGER

## TWO COUNTERFEIT CONNECTICUT BILLS OF CREDIT

(SEE PLATES XXVII-XXIX)

In the American Antiquarian Society's extensive collection of colonial bills of credit are two counterfeit Connecticut notes, each of the denomination of forty shillings, one of the issue of May 10, 1775, and the other of the emission of June 19, 1776. Both are of interest, since counterfeits when detected were normally destroyed in accordance with law and examples of false bills are therefore quite rare.

The bill of the earlier emission, which is numbered 1817, is signed with the signatures, Wm. Pitkin, Thos. Seymour and Jesse Root, while across the signatures is written "Counterfeit." On the lower part of the back of the bill has been written in ink: "M<sup>r</sup>. Nath<sup>a</sup> Dauchy, p m, Dec<sup>r</sup>. 31. 1777, Counterfeit." It was customary, whenever a bill of credit was found to be false and stopped by a justice of the peace or some magistrate, to have the person in whose hands the money was last found write his name upon the bill.<sup>1</sup> Nathan Dauchy was, therefore, the last owner of the bill before it was determined to be a counterfeit, and it may safely be assumed that he signed it in the presence of a justice of the peace on the afternoon of December 31, 1777.

Dauchy can be identified as a reputable citizen of Ridgefield, Fairfield County, Connecticut, and there can be little doubt that he

<sup>1</sup> It was provided by an act passed in the fourth year of the reign of George I that "Every Assistant and Justice of the Peace in this Colony is hereby also Authorized and Impowered to Seize or take into his Custody every such Bill as aforesaid, which he shall See, Observe, or have Cognizance of, and the same to Retain, Entering on the backside thereof the Name of him from whom he takes the said Bill, and at his Discretion to Administer an Oath to him to Declare the person of whom he Received it. . . ." (*Acts and Laws of His Majesties Colony of Connecticut in New-England* [New-London: Timothy Green, 1715] p. 236). See also *Acts and Laws of His Majesty's English Colony of Connecticut* (1750), p. 25.



was merely the victim of a fraud and no counterfeiter or passer of counterfeits himself. At a town meeting on November 12, 1787, "Captain Nathan Dauchy" was elected as one of the two delegates to represent Ridgefield at the meeting to be held in Hartford to decide whether to adopt or reject the constitution proposed for the United States,<sup>2</sup> and on August 30, 1798, the people of the town selected him to be one of a group of assistant assessors.<sup>3</sup>

It is possible that the maker of this false bill was the able engraver, Henry Dawkins, though this is by no means certain. It is known that early in 1776 Dawkins, who was then living on Long Island, rubbed off a few forty shilling Connecticut bills. These frauds were promptly detected and a detailed description of them was published.<sup>4</sup> From this warning Dawkins was able to make suitable changes in his plate<sup>5</sup> and then print much more perfect imitations before he was arrested, tried and imprisoned.<sup>6</sup>

Except for the warning about Dawkins' counterfeiting there is no caution printed in either of the two Connecticut newspapers in 1776 and 1777. A comparison of this counterfeit with a true bill shows the following differences in the false note: the letters "ut" in the word "Connecticut" on the face of the bill are irregular, for they stand higher than the other letters in the same word; on the face of the counterfeit there is a dot after "AS." in the word "ASSEMBLY" instead of a dash after "AS-" as in genuine bills; on the back of the counterfeit the letters in the word "SHILLINGS" are irregular, while in the genuine bills they are regular.

The second bill, that of the emission of 1776, is numbered 9252 and bears the signatures B. Payne and T. Seymour. On the back of it is written in ink "Mr. Joseph Robinson, April 13 1778 — Counterfeit."

<sup>2</sup> George Launsbury Rockwell, *The History of Ridgefield, Connecticut* (Ridgefield: privately printed, 1927), p. 82; see also page 227, where it is recorded that Dauchy and Timothy Keeler in 1800 share pew number 9 in the meeting house.

<sup>3</sup> *Ibid.*, p. 56. Nathan Dauchy is listed as a resident of Ridgefield in the census of 1790 (*The Census of 1790, Connecticut* [Washington: The Government Printing Office, 1908], p. 28).

<sup>4</sup> *The New-York Gazette: and the Weekly Mercury*, April 15, 1776 and *The Connecticut Journal*, April 17, 1776.

Kenneth Scott, *Counterfeiting in Colonial New York* (NNM 127, 1953), p. 194.

<sup>6</sup> *Ibid.*, pp. 193-195.

Joseph Robinson was a citizen of Scotland Society, Windham, Connecticut, and he was either the person of that name who was born at Tisbury, Massachusetts, on February 4, 1706, and died at Windham on July 1, 1789, or otherwise Joseph Robinson, Jr., the son of the above, who was born at Scotland, Connecticut, on February 14, 1743, and died there at the age of 77.<sup>7</sup> Like Nathan Dauchy, it is highly probable that Robinson was merely the last possessor of a counterfeit bill before it was stopped and therefore had to sign it.

It may be noted that the counterfeiter was extremely careless in making the inscription on the seal on the face of the bill, for in it the first "C" of "CONNECTICENSIS" is omitted and the second "C" in the word looks more like a "G." The letters on both the face and back of the counterfeit are more irregular than those on the true bill. The second symbol, ¶, to the right of the word *two* on the face of the counterfeit extends further down than on a genuine bill. On the back of the counterfeit the final, small "s" in the word SHILLINGS within the ornaments inclines much more to the right than the same letter on the true money. The white, open space in the ornament to the right of this word, SHILLINGS, is more extensive than in the genuine. On the counterfeit bill there is a period (.) after *Lawful Money* but none in the true bill.

KENNETH SCOTT

<sup>7</sup> *Robinson Genealogy* (Salem, Mass.: Newcomb and Gauss) I, pp. 52, 64–65.



## PLATES



I



1



7



13



32



20



30



37



# BÜYÜKÇEKMECE HOARD

## II



42



43



44



45



46



47



48



49



50



51



52



53

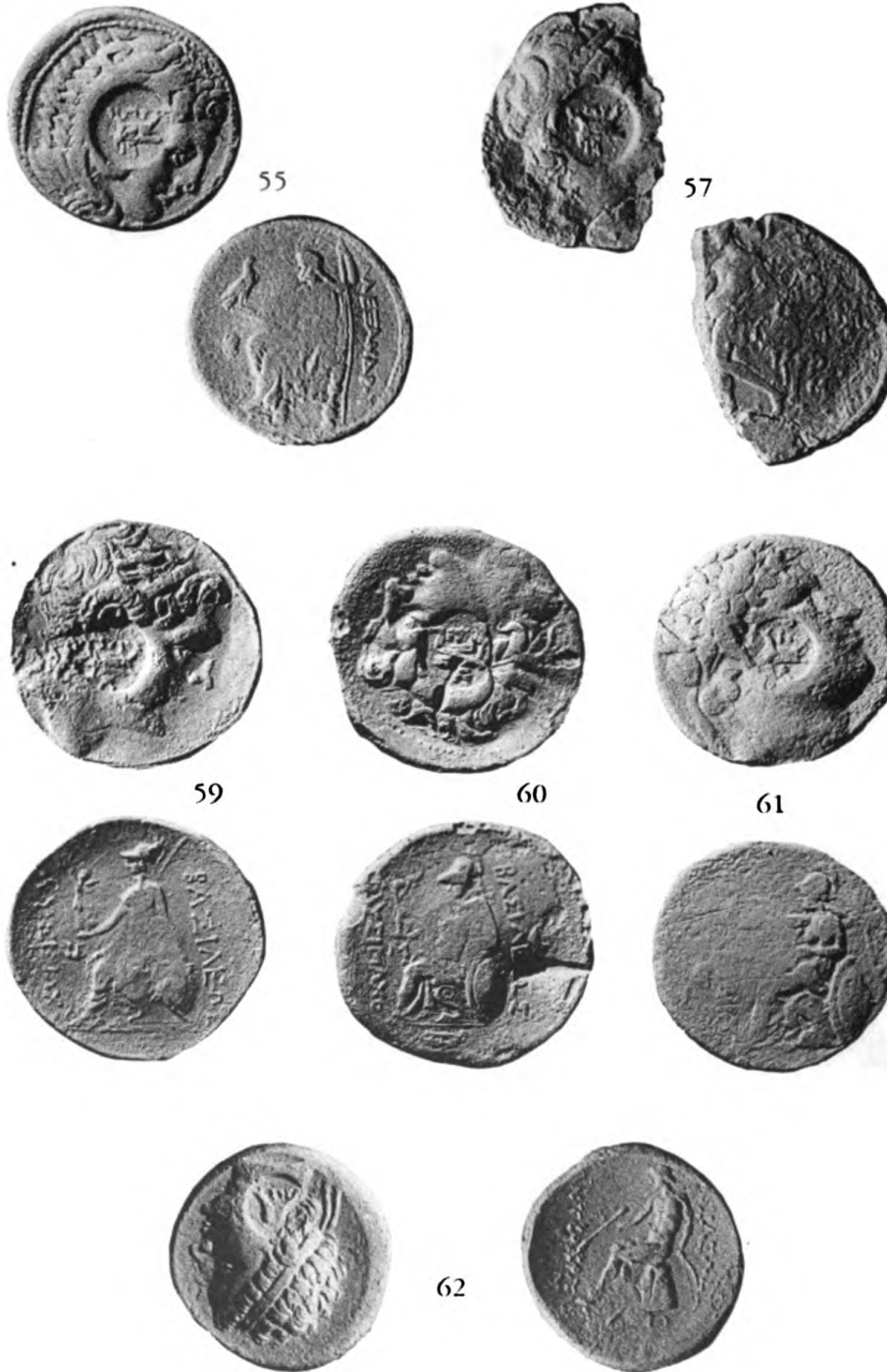
## BÜYÜKÇEKMECE HOARD



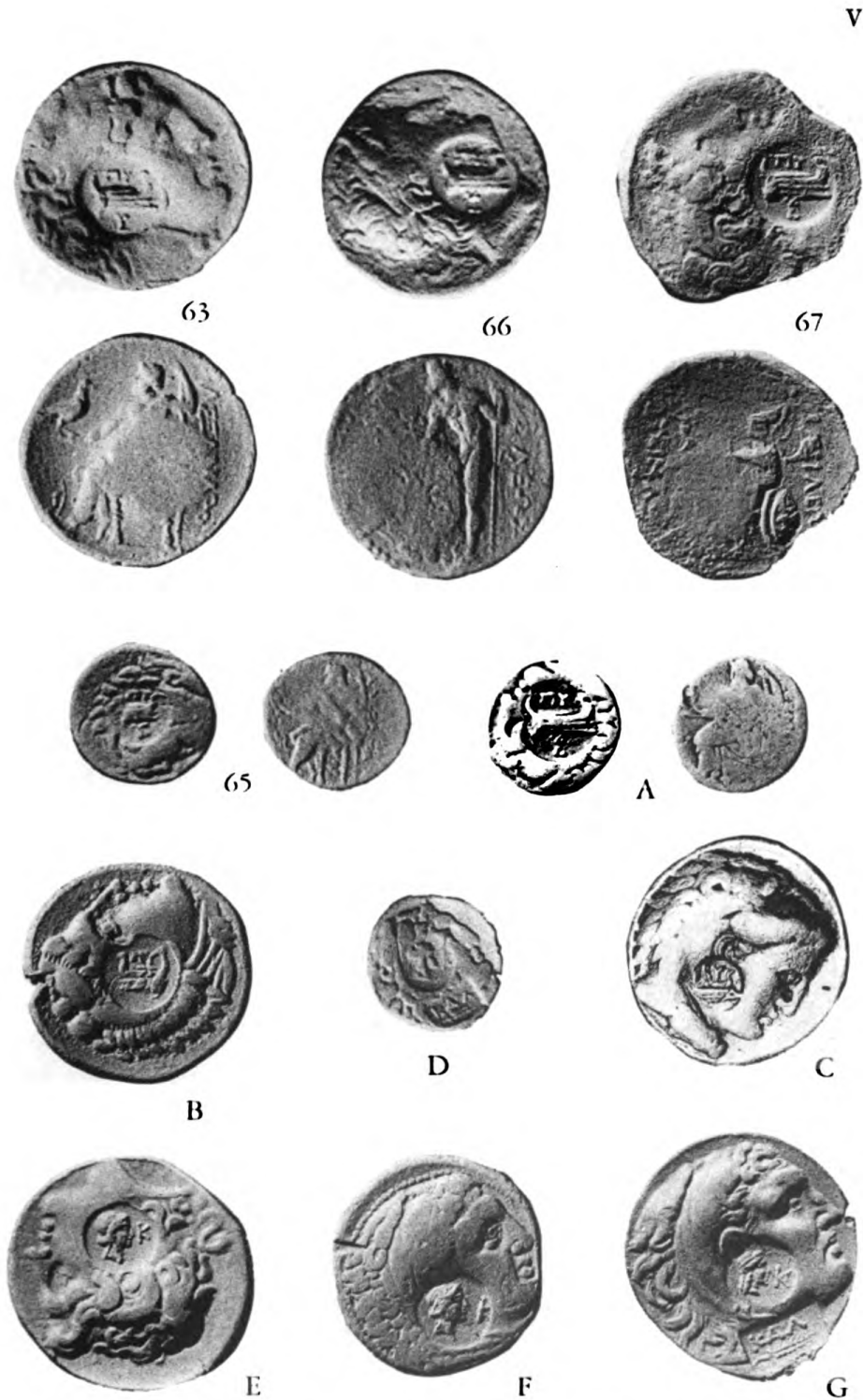
BÜYÜKÇEKMECE HOARD



IV

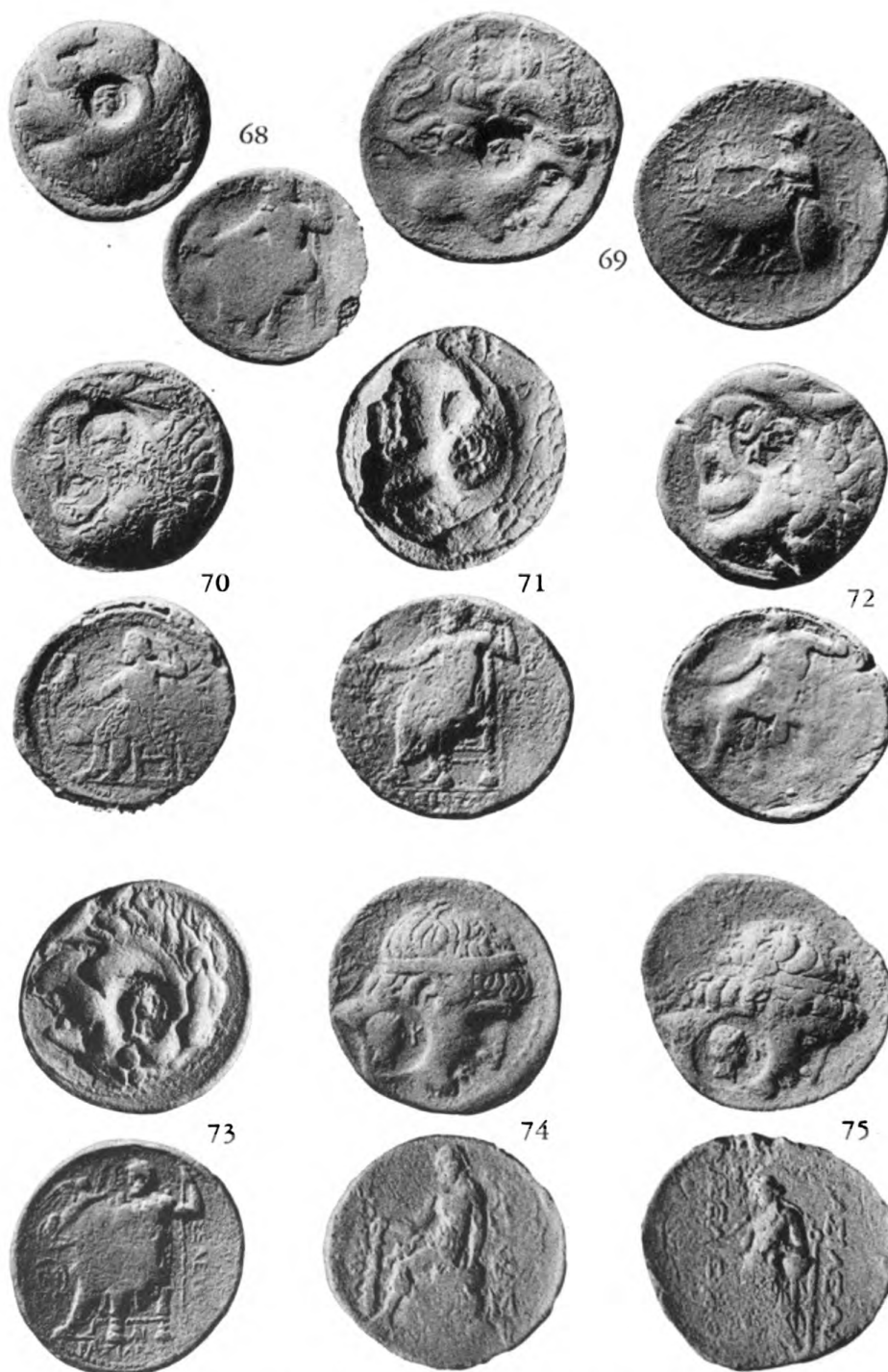


BÜYÜKÇEKMECE HOARD



BÜYÜKÇEKMECE HOARD

VI



BÜYÜKÇEKMECE HOARD



76



77



80



81



79



81



83



84



## BÜYÜKÇEKMECE HOARD

VIII



EUBOEAN LEAGUE



4



115



210



215



2



116



24



3



5



160

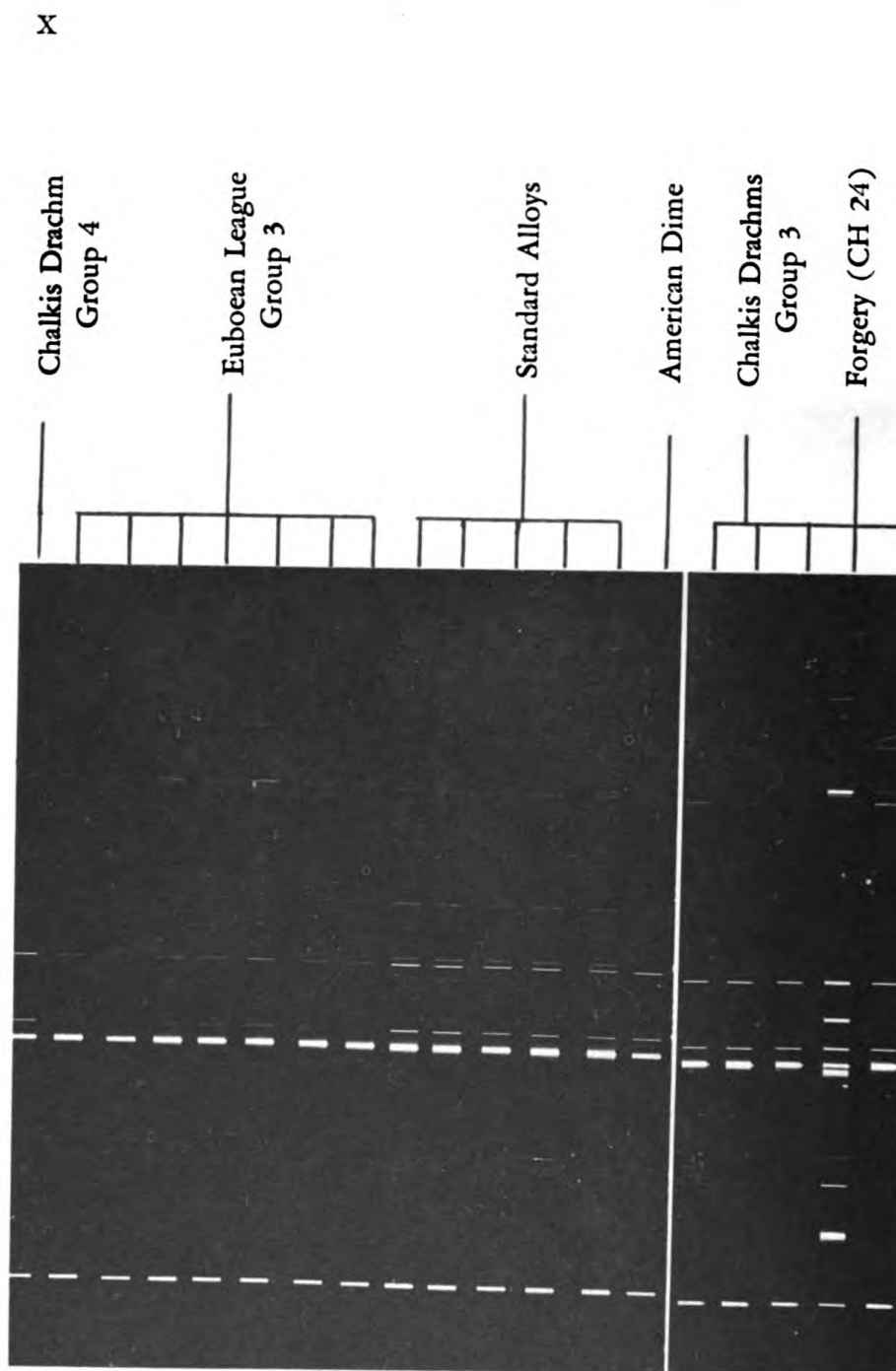


218

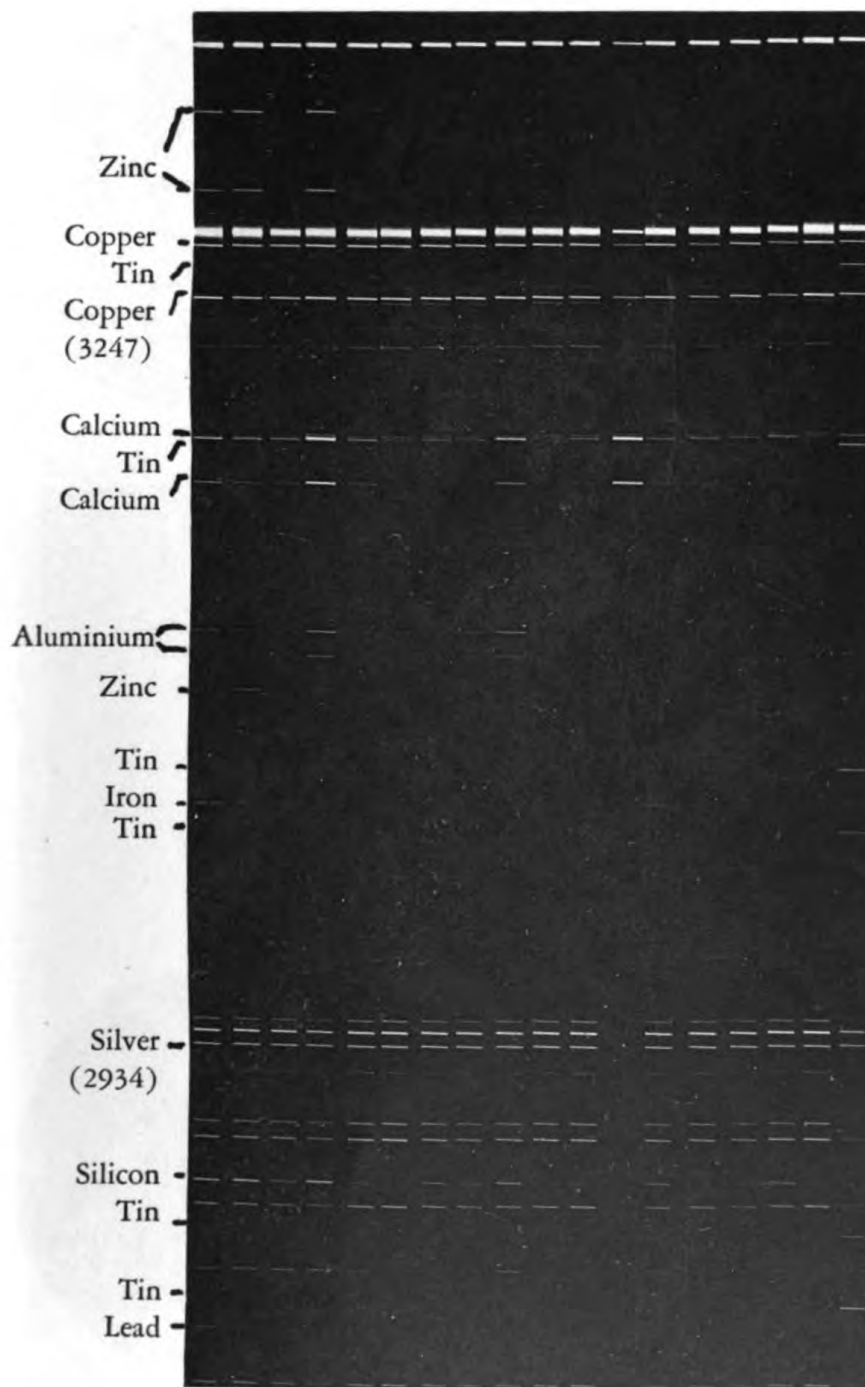


118

## CHALKIS



REPRESENTATIVE SELECTION OF SPECTRA



LINES INDICATING PRESENCE OF IMPURITIES



XII



2



1



3



OVERSTRUCK COINAGE OF PTOLEMY I



OVERSTRUCK COINAGE OF PTOLEMY I



XII



2



1



3

OVERSTRUCK COINAGE OF PTOLEMY I



4



5



6



7

## OVERSTRUCK COINAGE OF PTOLEMY I



XII



2



1



3



OVERSTRUCK COINAGE OF PTOLEMY I



4



5



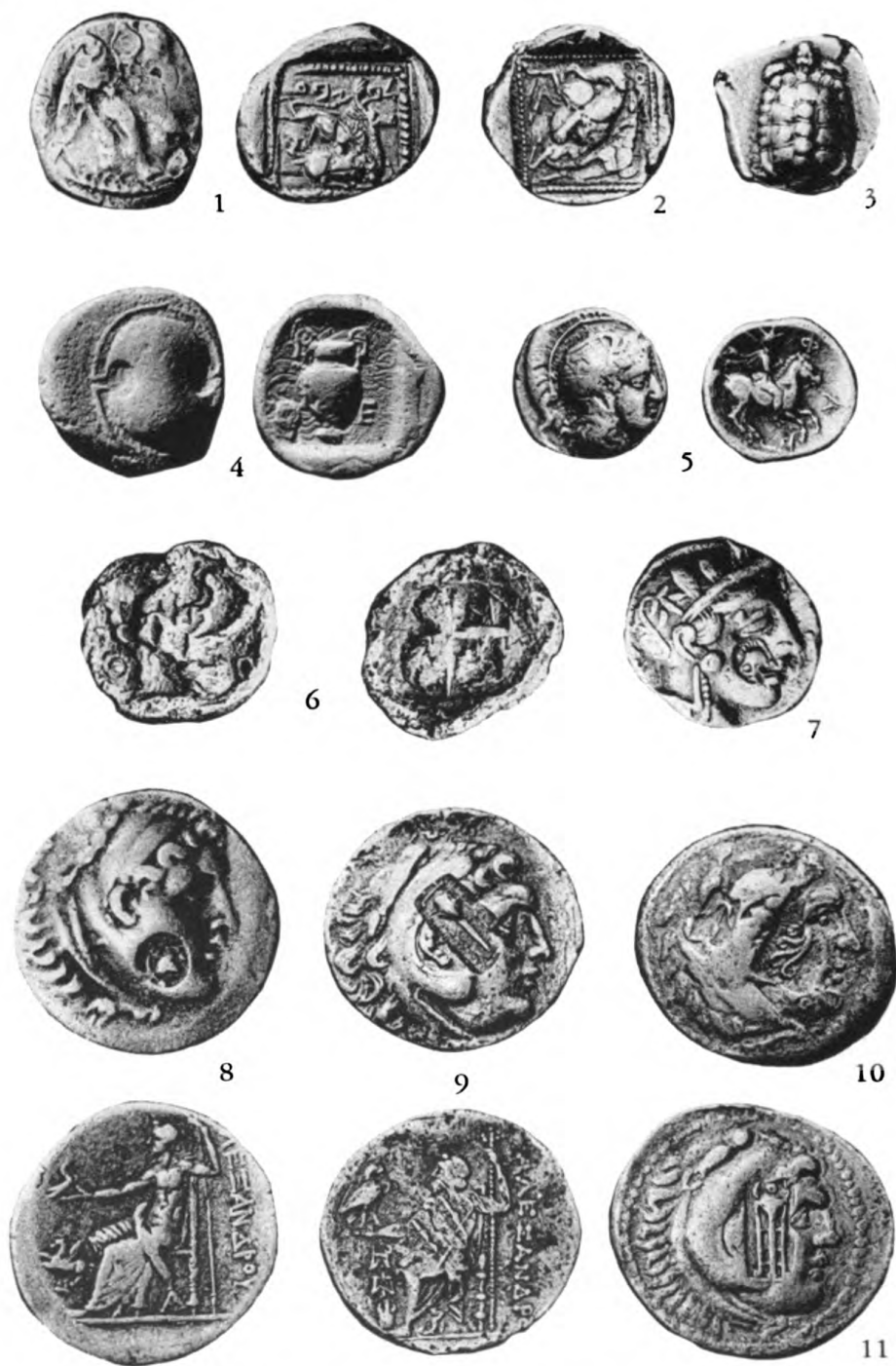
6



7

OVERSTRUCK COINAGE OF PTOLEMY I

XIV



OVERSTRUCK AND COUNTERMARKED  
GREEK COINS





ANTONY AND CLEOPATRA (1-2)  
EUDOXIA (3-8)



TUSCAN COINAGE  
1150-1250

Grossi of  
Tuscan Monetary  
League (ca. 1230?)

Earliest  
Grossi (?)

Petty  
Deniers

PISA  
1151 (?)

LUCCA  
(Continuous  
From  
Lombard)



SIENA  
1191 (?)



No Petty  
Deniers  
Before  
1259 (?)

FLORENCE  
1237 (?)



AREZZO



VOLTERRA  
1165 (?)

No Survivals

XVII

No Survivals

XVIII



CRUSADER BEZANTS (1-2)  
COLOGNE (3-4)



COLOGNE (1) RIGA (2)  
KIURIKE IN ARMENIA (3-6)

XX



10



12



15



17



22



27



112



130



136



121



120



138



CONSTANTINE III AND IV  
OF LESSER ARMENIA



CONTEMPORARY MEDAL  
OF MARTIN LUTHER



1A



1B



2

## MEDALS OF NUREMBERG



3A



3B



5



## MEDALS OF NUREMBERG





## MEDALS OF NUREMBERG



10



11



12



13



## MEDALS OF NUREMBERG



14



15



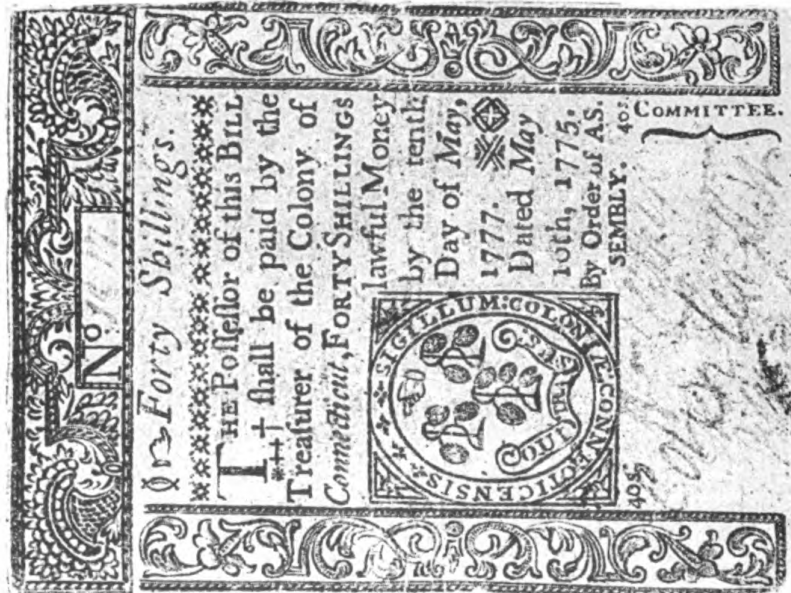
16

## MEDALS OF NUREMBERG



GENUINE CONNECTICUT NOTE

XXVIII



COUNTERFEIT CONNECTICUT NOTE





XXIX

COUNTERFEIT CONNECTICUT NOTE



CJ  
15  
A518  
no. 7

THE AMERICAN NUMISMATIC SOCIETY

OF MICHIGAN

LIBRARY

# MUSEUM NOTES

VII



THE AMERICAN NUMISMATIC SOCIETY  
NEW YORK

1957



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*Founded 1858 - Incorporated 1865*

BROADWAY BETWEEN 155TH & 156TH STREETS

NEW YORK 32, N. Y.

**PURPOSES:** The Society was founded for the collection and preservation of coins and medals and for the investigation of their history and other subjects connected therewith.

**MEMBERSHIP:** Applications for membership are welcomed from all interested in numismatics. Inquiries regarding membership should be addressed to the Secretary of the Society.

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**PUBLICATIONS:** The *Numismatic Notes and Monographs* consist of separately issued papers, each on a single topic, of which two to four numbers appear each year. *The American Numismatic Society Museum Notes* is a publication, irregular in appearance, consisting of brief notes and papers, principally on items in the Society's collections. *Numismatic Literature* is a quarterly listing current numismatic publications with abstracts of their content. *Numismatic Studies* is a series which accommodates works of full book length. The *Hispanic Numismatic Series*, published in co-operation with the Hispanic Society of America, consists of publications devoted to the coinage of the Iberian Peninsula, and is based on the collections of the Hispanic Society.

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THE AMERICAN NUMISMATIC SOCIETY  
MUSEUM NOTES

VII



THE AMERICAN NUMISMATIC SOCIETY  
NEW YORK

1957

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## A HOARD OF ATHENIAN FRACTIONS

(SEE PLATES I-IV)

In the spring of 1956 a hoard of Athenian small silver was unearthed during excavations for a house foundation in the Piraeus, and subsequently acquired by the American Numismatic Society. The find was a pot burial, the coins having been placed in a miniature vase with its mouth secured by means of a crudely fashioned lead stopper.<sup>1</sup> According to reliable information the eighty-nine fractions listed below comprised the entire hoard.

### DRACHMS

*Obverse:* Head of Athena r. in crested Athenian helmet.

*Reverse:* ΑΘΕ Incuse square, within which owl r., head facing; behind, crescent and olive-spray.

1 4.09 ←

2 4.28 ←

### TRIOBOLS

*Obverse:* Type as before.

*Reverse:* Α , Α or Α Incuse circle, within which owl  
Ε Θ Ε Ε Θ Ε  
facing, wings closed, between olive-sprays.

3 Ε Θ 2.02 ←

4 Ε Θ 2.01 ←

5 Θ Ε 2.03 →

6 Ε Θ 1.92 ←

7 ? Θ 2.00 ←

8 ? ? 2.03 ←

<sup>1</sup> The container, reduced in size for the illustration on PLATE IV, measures 7.5 cm. from base to the break at the neck, 3.2 cm. across the base, and 5.8 cm. at its maximum diameter. The stopper is 3.3 cm. long, 3.1 cm. across the top and 1.6 across the base.

- 9 E Θ 2.09 ↖  
 10 E Θ 2.03 ↖  
 11 E Θ 2.05 ← (Same obverse  
 die as No. 10)  
 12 E Θ 2.10 ←  
 13 ? ? 2.05 ↑  
 14 Θ ∃ 2.12 ←  
 15 E Θ 2.00 ←  
 16 E Θ 2.05 ←  
 17 E Θ 2.10 ←  
 18 Θ ? 2.00 ←  
 19 E Θ 2.19 ←  
 20 Θ ∃ 2.07 ←  
 21 ? ? 2.05 ←  
 22 Θ ∃ 2.02 ←  
 23 Θ ∃ 2.13 ← (Same reverse  
 die as No. 22)  
 24 E Θ 2.15 ←  
 25 E Θ 2.10 ←  
 26 ? ? 2.08 ←  
 27 [E] [Θ] 2.10 ↖ (Same obverse  
 die as No. 26)  
 28 E [Θ] 2.13 ← (Same reverse  
 die as No. 27)  
 29 Θ ? 2.12 ←  
 30 Θ ∃ 2.12 ←  
 31 Θ ∃ 2.11 ←  
 32 E Θ 1.95 ←  
 33 E Θ 2.07 ←  
 34 E Θ 2.07 ←  
 35 E Θ 1.95 ← (Same obverse  
 die as No. 34)  
 36 E Θ 2.05 ← (Same reverse  
 die as No. 35)  
 37 E Θ 2.11 ←  
 38 ? ? 2.05 ←  
 39 ? Θ 2.06 ←

- 40 ? Θ 2.10 ←  
 41 ? Θ 2.10 ←  
 42 Θ [Ξ] 2.08 ←  
     2.16 ← (Same reverse  
     die as No. 42)  
 44 Θ Ξ 2.10 ←  
 45 ? Θ 2.13 ←  
 46 ? Θ 2.15 ←  
 47 Θ Ξ 2.12 ←  
 48 E Θ 2.12 ← (Possibly same  
     obverse die as No. 47)  
 49 Θ ? broken ←  
 50 Θ Ξ 2.14 ← (Same obverse  
     die as No. 49)  
 51 Θ Ξ 2.13 ←  
 52 Θ [Ξ] 2.12 ←  
 53 Θ Ξ 2.13 ← (Same reverse  
     die as No. 52)  
 54 Θ Ξ 2.12 ←  
 55 E Θ 2.12 ←  
 56 E Θ 2.10 ←  
 57 Θ Ξ 2.09 ←  
 58 E Θ 2.00 ←  
 59 ? Θ 2.16 ←  
 60 E Θ 2.12 ←  
 61 ? ? 2.13 ←  
 62 Θ Ξ 2.14 ←  
 63 Θ Ξ 2.09 ←  
 64 E [Θ] 2.10 ←  
 65 Θ Ξ 2.12 ←  
 66 E Θ 2.12 ←

*DIOBOLS*

*Obverse:* Type as before.

*Reverse:*  $\overset{A}{E} \Theta$  or  $\overset{A}{\Theta} \Xi$  Incuse square, within which double-bodied  
 owl, head facing. In upper field, olive-sprays to l. and r.



- 67 Θ ∃ 1.37 ←  
 68 Θ ∃ 1.30 ✓ (Same obverse  
 die as Nos. 10-11)  
 69 E Θ 1.31 ✓  
 70 E Θ 1.42 ←  
 71 Θ ∃ 1.38 ←  
 72 Θ ∃ 1.38 ←  
 73 Θ ∃ 1.47 ←

## OBOLS

*Obverse:* Type as before.

*Reverse:* AΘE Incuse square, within which owl r., head facing;  
 behind, olive-leaf and berry.

- 74 0.70 ←  
 75 0.73 ✓ (Same reverse  
 die as No. 74)  
 76 0.68 ←  
 77 0.68 ←  
 78 0.70 ← (Same reverse  
 die as No. 77)  
 79 0.67 ← (Same reverse  
 die as Nos. 77, 78)

*Obverse:* Type as before.

*Reverse:* AΘE to l., in center, and to r. Incuse square, within which  
 four crescents back to back.

- 80 0.59 ↑

## TRITARTEMORIA

*Obverse:* Type as before.

*Reverse:* A , A or A Incuse circle, within which three  
 E Θ E Θ Θ ∃  
 crescents, horns inward.

- 81 E Θ 0.49 ↑  
 82 E Θ 0.47 ↓

83	Θ	Ξ	0.55 ↗
84	Θ	Ξ	0.53 ↖
85	Θ	Ξ	0.52 ↓
86	Θ	Ξ	0.52 ↑
87	Θ	Ξ	0.53 →

## HEMIOBOLS

*Obverse:* Type as before.

*Reverse:* A Incuse circle, within which owl facing, wings closed;

Θ Ξ

to l. and r. of its head, crescents with horns inward.

88            0.39 ←

89            0.44 ←

The Piraeus Hoard is noteworthy for the quantity of fractional material which it contains. As compared with the abundant tetradrachms, the small silver of Athens is rather sparsely represented in museum collections and in Svoronos' compilation.<sup>2</sup> Furthermore, it is not commonly found in a hoard context, and this is particularly true of denominations lower than the triobol. In S. P. Noe's *A Bibliography of Greek Coin Hoards*<sup>3</sup> there are a few finds, notably Athens 93 and 96, which contained Archaic obols and hemibols but of the later issues there is no certain record of anything smaller than a triobol.<sup>4</sup> The *Bibliography* lists only one hoard comprised exclusively of Athenian fractions: Pleven (?) 820. To this can be added a deposit of plated drachms found at Eleusis in 1902.<sup>5</sup>



<sup>2</sup> For example, the British Museum Catalogue lists twenty owl triobols of *all* periods; the American Numismatic Society has thirty-one, of which eleven are from the Siphnos Hoard of 1930; in *Les Monnaies d'Athènes* (Munich 1926) Svoronos illustrates thirty-six.

<sup>3</sup> *Numismatic Notes and Monographs* No. 78.

<sup>4</sup> In Delos 305, the hemiobol of the New Style is a hemidrachm. Pleven (?) 820 records a find of eleven Athenian obols. There is no information as to the date or type of these coins; considering the size of the deposit and its provenance, there is a strong probability that the pieces in question are the early obols.

<sup>5</sup> E. S. G. Robinson ("The Tell El-Mashkuta Hoard of Athenian Tetradrachms," *Num. Chron.*, 1947, p. 119) cites the fact that they were put away as a hoard as an indication that they were an official issue.

It is apparent at once that most of the coins of the Piraeus Hoard are Hellenistic issues. Fortunately for this period we have a highly reliable stylistic criterion in the gold strikings of Lachares. This second emission of emergency gold at Athens has been variously dated by numismatists but the cogent arguments presented by Edward T. Newell<sup>6</sup> associate it definitely with the crisis of 295-294 B.C. and I think that there can be no serious doubt that it belongs there. Since this is the only comparative material that we have which can be closely dated within the Hellenistic period, it will be useful to look carefully at the stylistic peculiarities of the staters and fractions illustrated by Svoronos on Plate 21 of his Corpus.

The most distinctive characteristic of the gold issues is the rendering of the floral ornament on the helmet of Athena. On the fourth century tetradrachms, which Svoronos (Plate 19) dates to the time of Philip II, this decoration usually takes the form ; on the Lachares issues it has become a meaningless abstraction , which may be roughly described as a T between reversed brackets and which will, hereafter, for convenience be referred to as "bracket-style". The ornament is sometimes large in proportion to the other features of the helmet as on the Hunterian stater (PLATE IV, C; Sv. Pl. 21, 6) but more commonly neat and compact as on the Berlin stater (PLATE IV, B; Sv. Pl. 21, 3).<sup>7</sup> As for the reverses, the golden owls in general differ little from their silver predecessors except for the treatment of the wings. The primaries are cut off abruptly at the tip, in sharp contrast to the tapering, gently rounded outline which marks the earlier issues. Heavy upcurved strokes, alien to nature, are frequently used to indicate the demarcation between primaries and upper wing coverts, giving the birds a peculiarly grotesque appearance.

Against this stylistic background, the Piraeus Hoard presents certain points of interest. The best preserved coins in the deposit are

<sup>6</sup> *The Coinages of Demetrius Poliorcetes*, (London 1927), pp. 133f., n. 4.

<sup>7</sup> All of the gold illustrated by Svoronos (Pl. 21, 1-22) has the bracket type ornament on the helmet. Nos. 1, 12, 17, 21 are not clear from the Svoronos plate, but No. 1 as reproduced in the *Sylloge Nummorum Graecorum* (Copenhagen 1944) Pl. 2, 83 shows the bracket design. Nos. 12, 17, 21 share obverse dies with specimens that clearly have the bracket device: No. 12 with No. 10, No. 17 with No. 9 and No. 21 with No. 22.

Nos. 2 and 66; both obverses show traces of wear but the reverses are practically *fleur de coin*. The drachm, which because of its size and types can be readily compared with the gold units, has a bracket-style ornament similar to that which appears on the Glasgow stater. On the reverse, the wing feathers have an up-sweep like that found on the Berlin stater. The obverse of the triobol (No. 66) shows a bracket decoration closely parallel with that of the Berlin gold.

The other drachm would seem to belong to a somewhat earlier period. There is greater evidence of wear; the owl is less shaggy than the bird of No. 2, and the line of demarcation on the wing is far less sharply defined. Unfortunately the use of a badly worn obverse die makes it impossible to define details of the helmet.

Of all the fractions, the triobols, because of the number involved and their almost uniformly good state of preservation, are the most important. Nos. 3-5 are clearly earlier than the other pieces. They are quite worn and the stubby little owls with their neat olive-sprays, well-centered and well-executed, have little in common with the scrawny birds that appear on the great majority of the hoard coins. Nos. 6-18 are worn in varying degree, but from No. 19 on, the individual triobols, with few exceptions, are in good to very fine condition. This is more apparent from the reverses than from the obverses, many of which have been struck from outworn, badly broken dies.<sup>8</sup>

There are other indications of contemporaneity. A surprisingly large number of coins share obverse or reverse dies. Identical reverses join Nos. 22 and 23, 27 and 28, 35 and 36, 42 and 43, 52 and 53; identical obverses join Nos. 10 and 11, 26 and 27, 34 and 35, 49 and 50, and in all probability Nos. 47 and 48. Furthermore, and perhaps most significant of all, a very high proportion of the triobols shows the distinctive bracket-style ornament on the helmet of Athena. Nos. 3 through 13 are so worn that details of the decoration are

<sup>8</sup> The weights of the Piraeus coins are in accord with their state of preservation. Thirty-five of the sixty-three unbroken specimens weigh 2.10 grams or more. By contrast only seven of the twenty British Museum Catalogue triobols are comparably heavy. Svoronos' publication, with its selection of fine museum pieces, provides exactly the same proportion as the Piraeus Hoard; five of the nine triobols with recorded weights which are assigned to the period after 365 B.C. are 2.10 grams and over.

uncertain, but of the remaining coins (Nos. 14 through 66) thirty-three are sufficiently well preserved and well centered for clear definition of the ornament.<sup>9</sup> Four pieces (Nos. 14, 34-36) have a floral decoration which is similar to the first form illustrated on page 6; all of the others carry the bracket-style device.

We may conclude, then, on triple grounds of preservation, stylistic similarities and die links that the majority of the triobols from the Piraeus Hoard were struck over a comparatively short span of time and that not far removed from the burial date of the deposit.<sup>10</sup>

The diobols and the smaller fractions are generally more worn than the triobols but considering that they would have experienced even greater circulation, their state of preservation is comparable with that of the larger coins. Actually individual pieces are quite fresh, notably Nos. 72-73 and 77-79. The first three diobols on PLATE III show considerable wear but interesting proof of contemporaneity with the triobols in at least one instance is provided by No. 68 which is from the same obverse die as Nos. 10 and 11. This use of one die for different denominations, if it was a general practice, helps explain why the obverse heads of the fractions are so often too large for the flans.

Nos. 72 and 73 are well preserved and very close in style. The latter has a clearly defined bracket-style ornament on the helmet and the same may be true of Nos. 70 and 71. For all the diobols, the wing tips are off flan, but No. 73 shows a sharp upcurved termination of the upper wing coverts similar to that on the Piraeus drachm (No. 2).

The obol series is particularly interesting. Nos. 77-79 are in good condition. Of these, the first two owls have wings abruptly cut off at the end, in contrast to the rounded outline of Nos. 74-75 but

<sup>9</sup> Nos. 15-21, 23-24, 28, 30-33, 40-42, 46-48 are for one reason or another illegible.

<sup>10</sup> Edward T. Newell in commenting on the condition of Athenian fractions in the Siphnos Hoard (*Num. Notes and Monog.* No. 64, p. 12) remarks: "It is a well known fact that 'small change' will sooner show wear than larger denominations of the same issue. This is the result of their more constant circulation from hand to hand and of their subjection to a more concentrated rubbing—due to their smaller surface area."

E. S. G. Robinson in his article on the Tell El-Mashkuta find (*loc. cit.* pp. 120f., n. 6) points out that "the nearer coins are buried to the place and date of their manufacture the more likely are some to be from the same die."

closely comparable with the treatment on the gold fraction (PLATE IV, A; Svor. Pl. 21, 22 from Leningrad). Nos. 74 and 75 share a reverse die, as do Nos. 77, 78 and 79. Only one obverse is sufficiently clear to show the form of the floral ornament; on No. 79 it is bracket-style.

Little can be said about the crescent fractions and the hemiobols, except that, considering the size of the denominations represented, they do not show excessive wear and probably belong to the same general period as the remainder of the hoard. It should perhaps be noted in passing that whereas the die axes of the owl fractions almost invariably are adjusted so that the reverse is at right angles to the obverse  $\uparrow \leftarrow$ , there was apparently no attempt to fix a relationship for the crescent coins with reference to the position of the ethnic.

As to the burial date of the hoard, the general period is certain. From the gold issues, which bear close comparison with many of the Piraeus coins, we are informed of the stylistic peculiarities of obverse and reverse dies of the year 295–294 B.C., but unfortunately we do not know how long before and after that date the same distinctive style of die-cutting was prevalent. Tetradrachms with the bracket-type helmet ornament and sharply terminated wing tips are among the issues which Svoronos (Pls. 19–21) assigns to the years between Philip II and 255 B.C., and Newell in his publication of the Siphnos Hoard (*loc. cit.* p. 11) indicates a general agreement with this over-all chronology, although he suggests that its upper and lower limits may have to be revised.

Until the Athenian coinage as a whole has been more carefully studied, particularly with reference to the numerous hoards containing late tetradrachms, it is perhaps unwise even to attempt a closer chronological definition. However, there is some numismatic evidence which may help in restricting the lower limits for the particular series under discussion. A hoard found in Thessaly, now in the cabinet of the American Numismatic Society but as yet unpublished, contains seventy-two tetradrachms of Athens associated with issues of Antigonus Gonatas and Demetrius Poliorcetes. Many of the Athenian coins are of the distinctive bracket-style sequence, and the best preserved of these are comparable in condition to issues of Demetrius which Newell dates between 291 and 289 B.C.

The contents of the Piraeus Hoard itself would seem to indicate a burial date which cannot be much later than 295 B.C. This is a treasure-trove of minor value, notable for the quantity and condition of its small fractions. It contains no bronze.<sup>11</sup> A fixed date for the introduction of bronze as a definite part of the Athenian monetary system has not as yet been established, but it seems logical to suppose that the bronze when it came into general use was intended to replace rather than to supplement the inconveniently small silver denominations. The process of replacement may have been an abrupt one; it may have taken place gradually, with token issues of diobols, obols and even smaller fractions appearing side by side with increasingly large issues of bronze. However that may be, it would seem to me that by 295 B.C., and perhaps well before that date, bronze was an established element of the Athenian currency, and I think one can assume further that by that date the smallest fractions were no longer being issued. If this premise is valid, the condition of some of the tiny fractions of the Piraeus Hoard, obviously withdrawn after only a short period of circulation, would suggest 290 B.C. or thereabouts as a *terminus ante quem* for the interment of the hoard.

At the other end, the pottery container offers a helpful *terminus post quem*. Miss Lucy Talcott of the Agora Excavations has studied the little jar and I am most grateful to her for the following report:

"The vase is a miniature oinochoe, a chous of the sort made as presents for children at the Anthesteria. The trefoil mouth, the handle and a small piece of the wall are missing. By comparison with standard-sized vases of the same shape, this piece may be placed in the second half of the fourth century B.C. The shape is considerably more slender, more drawn at the bottom and with a more sloping shoulder than the well-known Pompe oinochoe in New York,<sup>12</sup> which is dated ca. 350 B.C., but bears comparison with pitchers from nearer the turn

<sup>11</sup> This in itself is not remarkable. Hoards of mixed silver and bronze are not common but they do occur. An interesting deposit of this type from Thasos has recently been published by Georges Le Rider (*BCH*, 1956, pp. 1-19).

<sup>12</sup> Gisela M. A. Richter and Lindsley F. Hall, *Red-Figured Athenian Vases*, (New Haven 1936), No. 169, pp. 215f. and pl. 164. The oinochoae from Olynthus, destroyed 348 B.C., although for the most part of local manufacture and hence not strictly comparable, do in fact also show this same relatively plump shape.

of the century. A close parallel may be found in one of the latest of the figured examples noted by Schefold, and dated by him in the 20's.<sup>13</sup>

"Of the decoration, painted in white over the black glaze, only traces of the outlines remain; it appears to have shown a child pushing a toy roller to right with one hand and brandishing a streptos-cake in the other.<sup>14</sup> Schefold notes the prevalence of decoration in added color on this shape in the second half of the fourth century.

"This little chous may probably be dated along with the last of the figured pieces, ca. 330–320 B.C."

The combination of a child's vase and a hoard consisting exclusively of small denomination coins tempts one to speculate on the possibility of a "piggy bank" into which from time to time little coins in good condition were inserted. The deposit may, of course, represent the meagre savings of a humble citizen of the Piraeus or the till of a small shopkeeper, but in the former case one wonders why there was no attempt to change the numerous triobols into larger denominations and in the latter, why a cross-section of currency in circulation at any given time would show so few worn coins. In any event, whatever the circumstances under which the hoard was assembled, its burial can with a high degree of certainty be assigned to the period between 330 and 290 B.C. and, considering the marked similarity between the gold issues of 295–294 B.C. and the best preserved of the Piraeus specimens, a closer dating of 315 to 295 B.C. would seem justified. During those troubled years there were certainly numerous crises involving Athens and the Piraeus, any one of which might have led to the secretion of this little pot and its contents.

MARGARET THOMPSON

<sup>13</sup> K. Schefold, *Untersuchungen zu den Kertscher Vasen*, (Berlin and Leipzig 1934), No. 301, pp. 35 and 141.

<sup>14</sup> For the technique and the cake, compare, e.g., G. van Hoorn, *Choes and Anthesteria*, (Leiden 1951), fig. 454; for the toy roller, figs. 363–364 and 366; further, for both shape and technique, fig. 534.





## OVERSTRIKES IN MAGNA GRAECIA

(SEE PLATES V–XIV)

As long ago as 1877, J. Friedlaender (*ZfN* IV, 1877, 328–349) published an article on overstrikes and their interpretation which was supplemented in the following year by F. Imhoof-Blumer. (*ZfN* V, 1878, 143–150) More recently, a provocative article by C. H. V. Sutherland (*NC*, 65, II, 1942, 1–18) has appeared which would doubtless have been further extended had not its preparation suffered from difficulties incident to war. None of these articles were illustrated. In the lists which follow I have included all the overstrikes for this section of the Greek world I have been able to find of which the under types were identifiable. The ones not shown on the plates are generally accessible.

Means for evaluating the evidence of overstrikes have increased greatly since the day of Friedlaender. The number of known overstrikes has become so great that in this article I shall limit myself to a discussion of those occurring in the coinages of Magna Graecia. For these coinages recent studies have placed into our hands means for ascertaining with a considerable degree of accuracy datings for specific issues. To the earlier studies of Tarentine coins of Sir Arthur Evans have been appended those of Vlasto and Ravel, and the classification of the coinage of Corinth by the latter is of great help in the study of the South Italian coinages. Regling's work on Terina has been followed by others on the mints of Metapontum and Herakleia. One on Caulonia is approaching final form. For Sicily, Boehringer, Cahn, Schwabacher and Lederer have ordered the coinages of Syracuse, Naxos, Selinus and Segesta. Gela is now being studied by Mr. Jenkins at the British Museum, Camarina by Dr. Eunice Work, and Agrigentum by Dr. Oleg Grabow. These studies, based on the succession of die-combinations within each of the series, have upset a number of earlier mistaken interpretations based on purely stylistic criteria. It is obvious that when both upper and

nether dies of overstruck coins are dateable we have clear evidence not open to reasonable challenge. Such evidence may indicate that the conclusions of a preceding generation need reconsideration. Herein, I present a list of overstrikes which is considerably extended over previous ones and which will show, I think, that some accepted generalizations are less dependable than has been assumed.

One such generalization, based on observation of a few overstruck coins, is that the silver for the incuse coinages of South Italy was supplied by staters of Corinth. The more recent proponents of this theory have been C. H. V. Sutherland and J. G. Milne.

Sutherland writes (*ANSMN* III 22), "If, then, we accept as a working hypothesis the view that the 'incuse' fabric was deliberately adopted for the systematic striking of imported coins..." and (loc. cit., p. 25) "The evidence discussed above warrants no more than the theory that it was an initial prevalence of imported Corinthian issues which influenced the evolution and development in South Italy of the 'incuse' fabric." J. G. Milne's position is stated in two places (*Greek Coinage*, p. 33 and *NC*, 1938, p. 17) in the latter of which it is stated that "...the weights of the coins (of Zancle) suggest that they may have been restruck on the coins of Himera..." So far, no such overstrikes are recorded. Sutherland says further (*NC*, 1942, p. 8), "To summarize then, Italy was with the single and natural exception of Rhegium, an importer of silver, as she possessed none herself: she drew largely upon Corinthian *pegasi* for overstriking, together with many coins of Acragas and Gela, as well as sporadic issues from the northwest of Greece and the northern Aegean."

The first edition of the *Historia Numorum* gives what is probably the basic idea of the theory espoused by these numismatists. In the introduction to that volume it is stated, "The fact that the Achaean colonies in Italy, in beginning to coin money of their own, took the Corinthian coins as their models, ..." Just what was meant by "model" is not made clear. Since this volume appeared in 1887, there have been many clarifications of chronology, especially through study of hoards. Since 1918, when Percy Gardner's *History of Ancient Coinage* appeared, this progress has been intensified. Between 1887 and 1918 the photographic reproduction of coins had become general, and Gardner was able to refer to that admirable supplement to the

Historia, Head's *Coins of the Ancients* in which (Pl. VII, No. 11) a Metapontum stater struck over one of Corinth provided an accessible and irrefutable example of the practice to which, he says, Metapontum was "especially addicted." From this position it is but a short step to the thesis that many if not all *incusi* were struck over flans of other cities, that Corinthian staters were favored, and that Corinth exported silver in the form of her coins. Some of the problems raised but not settled were recognized by Gardner, but they do not seem to have been considered by his followers as the quotations given above demonstrate.

Let us explore first the evidence for the source from which the silver used in the earliest coinages of South Italy came. François Lenormant (1837-1883) was a French numismatist of considerable prominence in his day. Many of his published opinions have been discounted by later scholars. Does it not seem, however, that the information presented in the following quotation from his *Grande Grece* (I, p. 262) should be examined. He states: "Le sol lui donnait des richesses minérales. Il y avait à Longobuco, dans la vallée du Trionto, des mines d'argent exploitées dès l'antiquité et qui l'étaient encore en 1558, sous la domination espagnole, à un moment où l'afflux des métaux précieux de l'Amérique avait fait déjà tomber le plupart des exploitations de ce genre en Europe. Ces Mines, d'après leur situation géographique, durent appartenir d'abord au territoire de Sybaris, puis passer aux mains des Crotoniates après la chute de la ville. D'autres mines du même métal se trouvaient, comme nous l'avons déjà dit, dans la vallée du Crathis, au lieu qui en avait reçu à l'époque romaine le nom d'Argentanum."

It is common knowledge that often no traces of mines famous for their output in antiquity can now be found. Lenormant's statement that South Italian mines were still being worked profitably in the sixteenth century in the face of the lowered evaluation of silver due to the huge supplies of this metal coming from the New World was not supported by references. I appealed to Comm. Maiuri, the learned Director of the Naples Museum, asking whether in his opinion there was sound basis for it. He informed me that Giustiniani in his *Dizionario geografico del Regno di Napoli* (Tome V, 1702, p. 284) shows an entry for Longobuco which I quote—the reference was most

kindly transcribed for me by Dr. Maiuri: "Longobucco, terra in Calabria citeriore, compresa nella diocesa di Rossano distante da Cosenza miglia 24. E' situata in una pianura circondata da montagne. Giovano Pontano è di avviso, che anticamente era detta *Themesene* per le vene di metallo che vi erano. E'infatti ho rilevato da un monumento esistente nell'archivio della Regia Camera, che la Corte nel 1558 vi tenea molti operai per estrarre l'argento nelle sue montagne." There was the further information that the document of 1558 to which reference is made was among the other casualties of the bombardment of Naples in World War II.

With one important exception, later writers seem content to echo Lenormant. Nissen in his *Italische Landeskunde* published in 1902 (p. 919) states "Silber fand sich bei S. Marco Argentano (430 m.) westlich oberhalb des Cratithals, auf Silber wurde in der Sila bei Longobucco (794 m) am oberen Trionto noch im 16. Jahrhundert gebaut: beide Orte sind im Machtbereich von Sybaris enthalten."

M. Cary in his *Geographic Background of Greek and Roman History* (p. 139) giving Nissen as his reference, states: "A further contribution to the wealth of this favored region (Sybaris) may have been made by a silver-mine which is not mentioned in our ancient texts but was under exploitation in early modern times."

In Dunbabin's *The Western Greeks*, published in 1948 (p. 223), we read "There is silver in the territory of Sybaris, but no evidence that it was worked before the sixteenth century." Acknowledgment for this information is made to the authority on Roman mines, Mr. O. Davies. Two sentences earlier in the same paragraph there is the categorical statement "The metals of Sicily and South Italy are almost negligible."

What, then, is the basis for the belief that in Italy silver had to be imported? I believe that Blumner's *Technologie und Terminologie der Gewerbe und Künste der Griechen und Römern* (p. 35), published in 1887, is responsible. Here we find the statement, "In Italien wurde wenig Silber gefunden." In a note, doubt is thrown on Pliny's reference III, XX, 138—Loeb II, p. 103: *Metallorum omnium fertilitate nullis cedit terris; sed interdictum id vetere consulto patrum Italiae parci iubentum*. as well as Vergil's *Georgics* II, 165: *Haec eadem argenti rivos serisque metalla ostendit venis atque auro plurima fluxit*.

With this information in hand, I sought and was courteously given an appointment by Prof. F. Ippolito of the University of Naples, to whom I had been referred as an expert geologist whose publications show familiarity with Southern Italy. I asked whether in his opinion sufficiently rich deposits of silver ore occurred in this territory to have supplied the metal for the coinage of Sybaris. Since we cannot estimate the quantity of ore that would have been required, the question was hardly a fair one. The answer was, that in his judgment, the supply of such an amount of silver was possible, but hardly probable. This opinion goes further than leaving the question open. I found, too, that Orsi had not hesitated to suggest that the ore for Caulonia's coinage came from sources within its territory (*Atti e Mem.*, III, p. 42).

It is obvious that the silver that was being profitably mined in 1558 must have been in the earth in 550 B. C. This ore was probably in the form of galena, occurring in veins of varying thickness and richness, found near the surface and quite susceptible to being worked with primitive tools. Nor is it surprising that there is no literary reference to such operations. Much of the construction in ancient mines was of wood which would leave but slight traces after disintegration. The rich mines of Mt. Pangeion have been rediscovered only recently so there is little reason for surprise that these humbler workings should have left few traces.

The paucity of fixed dates for the period of incuse coinage leaves any discussion subject to theories which suffer from failing to take all the facts into consideration. Metapontum leads in the number of overstruck *incusi* and since my previous studies of this mint are given prominence in these lists and in their discussion, there would be great gain if we could achieve unanimity in dating. Dr. Sutherland (*ANSMN* III, p. 21) accepts Ravel's (*Poulains* I, p. 57) and Gardner's (*History*, p. 136) dating of the change to double-relief at Corinth, i.e., 550, but in his conclusion suggests a dating 20 or 30 years later as more desirable. Fortunately, the disputed date for the beginning of coinage at Corinth lies outside what is being considered here, except in so far as the date for the change to double-relief is affected. Ravel's search for varieties of the swastika reverse issues is as thorough as one could ask, and he lists only 65 punch and 67

anvil dies, distributed among 95 varieties. We can hardly expect a radical increase of this list. This number of dies must be distributed over whatever length is given to the interval during which the swastika reverse type was coined. Any lowering of the initial date involves the date for the change to double relief. Conversely, lowering the date for the change involves modifying the date of beginning or spreading 65 dies over the interval decided upon. There may even have been a lapse in the coinage between the two forms, as Mr. E. S. G. Robinson points out to me.

When did the incuse fabric come to an end? At Sybaris, in 510, certainly. Let us try to face this query for Metapontum. The answer was clear to Babelon, for in the *Traité* he illustrates the piece which is our No. IIIa, the stater in the Paris Cabinet struck over a very rare Syracusan didrachm which Head dates after 478 (BMC *Sicily* p. 155) and Boehringer (*Syrakus*, p. 47, Pl. 18, 497) after 474, with the overstriking to be dated as c. 470 since that is the division line set by Babelon as marking the end of the archaic period. And this approximately fixes a date after which the coinage of incuse staters at Metapontum ceased. How much after? Who shall say? But hardly more than a decade after, as a comparison of the earliest stater of Herakleia with similar types of Metapontum (cf. my Nos. 397 and 420) will show, since these pieces come well along in the double-relief coinage of Metapontum.

We have then two reasonably fixed dates, the fall of Sybaris in 510 and the cessation of the incuse coinage, c. 460. Now, if the number of staters struck at Metapontum described in my monograph be equally divided, we find ourselves faced by the types on my Plate XIII (No. 155). This is just where the shrinkage of the flan begins, a shrinkage which I have previously suggested occurred at the time of the fall of Sybaris or shortly thereafter, since there is no such shrinkage in the flan-diameters of the staters of Sybaris. This division line has been accepted by Dr. Sutherland. And, although this may be termed a rule-of-thumb method, it is not arbitrary. Since the interval between 510 and 460 is fifty years, would not a like interval be required for the first half of its coinage? This would date the beginnings for Metapontum about 560 or slightly afterwards, and this is where Head dates the initial coinage of Sybaris. For the purposes of

this paper, let us consider the beginnings as 560–550 and the end of the incuse format as 470–460.

In the lists which follow, an effort is made to give the significant facts, along with datings which may not be classified as facts. Until there is greater agreement in dating the beginnings, there is bound to be confusion. Each new hoard promises potentially important evidence. At the present time, records of excavation stratification and pottery are wanting. But, as earlier misconceptions are eliminated and new facts, whether coming from hoards or from overstrikes, are applied, we should be able to become more certain as to chronology. My long connection with the incuse coinages convinces me that we are not yet on firm ground.

Group I shows Metapontum involved, either as upper or under type, in all five pieces; Croton, Poseidonia and Caulonia are the other mints. Group II is rather devastating for the belief that the Corinthian swastika reverse influenced the incuse fabric.

## GROUP I

## Incuse over incuse. PLATE V

<i>Upper type</i>	<i>Reference</i>	<i>Date</i>		
*a. Metapontum	Meta. 100a.	c. 515–510		
*b. Poseidonia		c. 530?		
*c. „		c. 500		
*d. Croton	BMC 5, Grose 1646	c. 500		
*e. Caulonia		520–510		
	<i>Sub-Group. Incuse over</i>	<i>Double (?) Relief</i>		
*f. Poseidonia		c. 520		

<i>Under type</i>	<i>Reference</i>	<i>Date</i>	<i>Weight</i>	<i>Provenance</i>
a. Croton		c. 540	7.80	Jameson 1863
b. Metapontum	Metapontum 73/77	c. 535	7.40	SNG II 429
c. „	„ 139?	c. 515–510	7.35	DeL. 524
d. „	„ 139?	c. 515–510	7.66	H. Miller
e. „	„ 94?	c. 525	8.85!	Munich
f. Agrigentum or Metapontum	Earliest Type	c. 525?	7.56	SNG II 428

These earliest overstruck *incusi* are shown on PLATE V, where the reproductions have been mounted with the undertype in upright position.



(a). Metapontum over Croton; Jameson Catalogue 1863, Metapontum I, 100a; ex Taranto Hoard. The undertype is one of the earliest issues for Croton, tripod with serpents at the top on both obverse and reverse. The obverse of Metapontum is struck over the obverse of Croton, but at right angles to the tripod. All traces of the borders of the undertype for either side have been obliterated. The weight, 7.80, is normal. The overstriking may be dated c. 515 B.C.

(b). Poseidonia over Metapontum; British Museum, ex Lloyd Coll. (SNG II, 429). Weight 7.40. The drapery of Poseidon has square ends, an indication that this is an early issue. The border of the Poseidonia type is *guiochèe*; the diameter of the die is 29 mm. from outer rim to outer rim, the reverse border being of the herring-bone form as on (c). The Metapontum obverse border is of dots between two circles, the reverse has the "worm" form. This variety is close to my Nos. 73 or 77, for which the die-diameter is 30 mm. The flan seems to have spread in restriking, for the diameter for the outer circle is now more than 30 mm. In my opinion, the original striking at Metapontum did not long precede the overstriking at Poseidonia.

(c). Poseidonia over Metapontum; Paris, DeLuynes 524; weight 7.35. The Poseidonia obverse is over the Metapontum reverse; the types are at right angles to each other. No change of diameter in overstriking. For Metapontum type, compare my No. 139. In the DeLuynes Catalogue the undertype has not been recognized.

(d). Croton over Metapontum; Hoyt Miller Collection. The Croton type has the crab to right on the obverse, with serpents at the top and base of the tripod; there is a three-letter inscription on both sides. The reverse has a crab on the right and the inscription on the left (with archaic *rho*). The Metapontine undertype shows below the exergual line and also to the left of the left leg of the tripod. The ear is narrow and traces of the awns at the upper left border fix their angle, which like that for (c). comes closest to my No. 139. Obverse is over obverse and the diameter unchanged in overstriking. The obverse borders for both types appear to be identical but for the Croton type, the reverse border shows a single line in the middle of its depression. On either side of this, the "worm" form of the Metapontum stater is discernible at the top and to the right. The cast of a piece from the same Croton dies from the Berlin cabinet also shows

what I take to be traces of a barley ear beneath the Croton type, but without sufficient clearness to permit identification.

(e). Caulonia over Metapontum; formerly at Munich. This Caulonia type occurs near the midpoint of the incuse coinage for that city, after the flans had diminished slightly from the diameter of the first group with the cable border. This obverse, with a *theta* (?) in the right field is coupled with seven differing reverses, which show progressive breaks. I believe it should be dated between 520 and 510. Obverse is over obverse with the undertype tilted slightly downward to the left (from horizontal line of upper type). Both obverse borders seem to be of dots between two lines; the reverse borders seem similar. The widely separated awns provide the most significant detail, corresponding fairly closely with the reverse of my No. 54; obverse details indicate a possibly earlier issue. The weight of the piece is remarkable (8.85), but it is not possible to check it.

To these should be added a stater of Poseidonia over what appears to be one of the earliest flat types of Agrigentum (double-relief). Now in the British Museum, this overstrike has been identified in the Sylloge (Lloyd 428).

These overstrikes show: (1) That the overstriking of incuse coins was feasible. (2) That, with the possible exception of an incuse stater of Tarentum (II f), those with recognizable under-types precede those now known struck over Corinthian staters. (3) As yet, no overstrikes of incuse issues of or by Sybaris have been discovered (but compare VI, e), nor have strikings of Croton over Corinthian swastika reverse types been noted (with one possible exception). (4) If silver mines in land under the control of Sybaris could be shown to have been productive at this period, that would be an explanation of the absence of overstriking by Sybaris and possibly of some measure of her proverbial wealth.

## GROUP II

Undertype: Corinthian Staters with Swastika Reverse. PLATE VI.

	<i>Overstruck by:</i>	<i>Provenance</i>	<i>Ravel No.</i>	<i>Weight</i>
a.*	Metapontum (BMC 20	NNM 32, 204)	60	8.02
b.*	„	B. Y. Berry Coll.	80?	7.86
c.*	„	C. Hersh Coll.		— . —

<i>Overstruck by:</i>	<i>Provenance</i>	<i>Ravel No.</i>	<i>Weight</i>
d. Metapontum	Dr. Naegeli Coll.	32 ? Lederer "Beiträge," 2.	7.88
e.* "	Gotha Coll.	30 ?	7.97
f.* Tarentum	Naples Santangelo	2309 75—76	
g.* " Vlasto, 14 I b.	Naples "	2371 86 ?	6.17
h.* Caulonia	BMC 17	86—90	7.32
i.* Caulonia	Oxford.		7.12
j.* Selinus rev. SNG IV, 1157	Hirsch XXVI, 406	84—89	8.53

On Plate VI the reproductions have been mounted with the Corinthian undertype in upright position. For specimens (b) and (c), because there are no visible traces of the reverse swastika, these two reverses have been omitted. A characteristic Corinthian stater is shown to render comparison easier.

The identification according to Ravel's numbers given above is, of course, an approximation. But it needs little defense, because where the swastika is visible, when coupled with the identifications which the figure of Pegasus supplies (especially in the wings) the possibility of error is radically reduced. For example, *if* (f). does have a swastika reverse under its incrustation, there are but two of Ravel's varieties which satisfy the evidence.

Specimen (d), not illustrated, was published by Dr. Lederer (*Beiträge*, 1943, p. 11) and illustrated by him from a cast. He identifies the undertype as that of Thasos, reading as a theta what is clearly a koppa. The forelegs and wing of Pegasus (facing left) are plainly discernible. The undertype seems to be that of Ravel Nos. 69–82 with 75–76 ruled out because on them the Pegasus faces to the right.

Specimen (e), the Gotha piece, a cast of which was kindly supplied me by Dr. Kraft of the Munich Cabinet, is listed by Friedlaender in his pioneer article. It shows that the Metapontine type is that of the pieces of Group III, which must have been overstruck after 473 according to Boehringer.

Specimen (i) comes late in the coinage of Caulonia, about 420 or even later.

(j). The Selinus issue is to be placed just before the change to double-relief at that mint; the Corinthian dies come not very long before the change to double-relief at Corinth.

In this group I have placed all the specimens I could discover struck over Corinthian staters with swastika reverse. A compromise date for the discontinuance of this form is c. 530. The first of these, on which the position of Gardner and those who follow his reasoning was based, was illustrated by Head in *Coins of the Ancients* first published in 1895 (Pl. VII, 11). Gardner's *History of Ancient Coinage*, published in 1918, dates the Corinthian undertype "as early as 550" (p. 203), although he gives 550 as the date for the beginning of the double-relief coinage of Corinth (p. 135). It is evident he meant that the swastika undertype could not have been later than 550 (although it must be considerably earlier than the change, for it is not the latest of the staters in this form). The year 550 is also the date which he suggests for the beginnings of the *incusi*. His opinions had been printed earlier in the *Proceedings of the British Academy*, v. 5 (1911-1912). He refers to B. M. C. *Italy* (p. 239) published in 1873 which describes this same coin and says the reverse is "quadripartite" (it would be better described as of the swastika form). The undertype is very clear and this permits its identification as Ravel's Class II, and through the conjunction of minutiae for both obverse and reverse, as nearest No. 60 in his grouping and consequently well before the change to double-relief took place. For the Metapontum upper type, Gardner realizes "it must be observed that this coin of Metapontum is not of the earliest flat fabric," but he does not appreciate that in the sequence for that city it comes after the mid-point had been passed (No. 204, Class IX-*NNM* 32, p. 107). A dating after 510 is supported by a comparison with the latest issues of Sybaris whose staters do not show or barely begin to show the constriction of flan which steadily progresses through the coinages of other cities using the incuse format. This change to a flan with smaller diameter may be an indication that the incuse fabric had been initiated or even imposed by that powerful and wealthy city.

The interval between the date for the initial striking of the Corinthian undertype and that of the Metapontine overstrike varies considerably in the pieces cited but the important fact is that the swastika form at the time the overstriking took place in Italy had been discontinued at Corinth for from twenty to thirty years or possibly even more. Can we believe that Magna Graecia would

accept Corinth's obsolete coins? Does it not seem more probable that they were overstruck because they were refused in circulation at Metapontum and overstruck for that reason?

Dating the Tarentine stater (II f) presents even greater problems. It is not possible to determine whether the Corinthian piece is of the swastika reverse because of its incrustation. Dr. Stazio, the Director of the Naples Cabinet, kindly informed me that he was unable to detect any trace of such a reverse. A date for the Tarentine stater has long been subject to controversy. Head and Vlasto place it as early as 560, but this is certainly much too early.

### GROUP III

Overstruck at Metapontum within life of same obverse die. PLATE VII

<i>Under type</i>	<i>Reference</i>	<i>Weight</i>	<i>Location</i>
a.* Syracuse	Babelon, <i>Traité</i> 2078, Pl. 66, 16 Boehring, 497, Pl. 30, Z 4	8.08	Paris
b.* Gela	DeLuynes Cat. 458	8.00	"
c. "	B. M. C. Italy; Meta. 25	8.15	London
d.* Agrigentum	Br. Mus. (ex Hasbrouck)	8.12	"
e.* "	DeLuynes Cat. 455	8.10	Paris
f.* "	Lockett Sale 258 (ex Bement)	8.10	Oxford
g.* Corinth	DeLuynes 457, <i>Traité</i> 2097.	7.95	Paris
h. Agrigentum	Zeit. f. Num. 1877, p. 331		Berlin ?
i.* Corcyra	DeLuynes Cat. 460	8.05	Paris
j.* " or Dyrrachium	Hunterian Cat. I, pl. VI, 14.	7.28	Glasgow
k.* Agrigentum	Cast	—	Unknown

### NOTES ON UNDERTYPES

- The Nike to r, crowning the rider is determinative. Cf. Boehring reference (497—Pl. 30, Z 4.)
- Three letters of the Gela inscr. are visible on the rev. of the Metapontum stater. Dies of Lloyd Sylloge 956. Ex Calabria Hoard (1833).
- Not illustrated. Mr. Jenkins kindly informs me that the Gela die is that of Regling-Warren 227—Brett 241 (Boston).
- Legs and claws of crab of Agrigentum on the Metapontum obv.; the head and feet of the eagle facing to l. and A of inscr. on rev.

- e. Legs of crab on Metapontum obv.; KR (retrograde) of inscr. on rev.—cf. *B.M.C. Sicily* Agrigentum 30–1 and McClean Pl. 65, 5. *SNG Copenhagen* 37.
- f. Legs or claw of crab to l. of barley ear; Eagle to l. on rev. with feet at right angles to barley ear. *SNG Lockett* 370.
- g. Forelegs of Pegasus to r. of ear; Chin and neck of head of Athena below ear on rev. Possibly stater of a Corinthian colony.
- i. Back of Corcyrean cow above barley ear; “Gardens of Alcinous” on reverse. Note the reduction in weight.
- j. Similar, but with a greater reduction in weight.
- k. Crab’s legs show on reverse.

This group is important because its single Metapontine die can be dated within narrow limits. All its coins were struck within the term during which a single obverse die was in use. Dating is made possible by IIIa, struck over a rare Syracusan didrachm which, as has been noted, is placed by Head as after 478 (*History of the Coinage of Syracuse*, p. 10, pl. II, 3) and more closely by Boehringer (*Die Münzen von Syrakus*, p. 48, Pl. 18, No. 497) as after 474.

The inclusion of this piece in Pt. I of the *Traité* shows Babelon’s concurrence. A date not much before 460 seems to me warrantable.

There are three Sicilian cities which share with Corcyra and Corinth the distinction of having provided flans for this Metapontum issue. It is not surprising that Gela and Agrigentum out-number Syracuse, for well before 470 the didrachm seems to have become less popular than the tetradrachms in that city. The Corcyra piece has had its weight reduced from a norm between 10.37 and 11.66 to 8.05, as Sutherland has emphasized. It is noteworthy that the diameter of the Metapontum die has been a determining factor in selecting the candidates for overstriking. Few western mints other than the Sicilian ones listed above and Corinth and its colonies were using flans of the same size or denomination at this time. At least five cities provided coins whose flans were used at Metapontum for this particular issue. And since IIe also uses this obverse, we have both the swastika and the double-relief Corinthian types being overstruck during the life of this die.

## GROUP IV

## Metapontum overstrikes not previously cited. PLATE VIII

No.*	Undertype	Reference or whereabouts	Weight
a.* 164 ?	Selinus	Paris, DeLuynes Cat. 452	7.75
b.* 181 ?	"	A.N.S.	7.50
c.*	" (Himera ?)	Paris, DeLuynes Cat. 459	8.00
d.* 194 ?	"	A.N.S.	7.92
e.* 182	"	Athens.	8.03
f.* 242	Thasos	Br. Mus., SNG II, 315 (Lloyd)	7.55
g.* 253	Gela	Naples, Fiorelli 2337	8.00
h. 255	"	Cat. Jameson Coll. 261	8.16
i. 258	Corinth ?	BMC Italy, Metapontum 26	7.78
j.* 261	Corinthian type	Naples, Santangelo 3952	7.75
k.* 310	" "	Berlin (over Ravel 259-261 ?)	7.93
l. 246	Corinth ?	Oxford (Rev. 94-130). N.C. 152, p.115	7.57
m.* 321	Croton	Berlin (over early doublerelief)	7.74
n.* 423	Corinthian type	BMC Italy, Meta. 74 over BMC Corinth, VIII, 6.	7.87

\* These numbers are those of NNM 25 (Metapontum Pt. I.)

## NOTES ON UNDERTYPES

- a. Parsley leaf of Selinus on obverse and characteristic incuse punch on rev. of Metapontine stater. Cf. *Coins of the Ancients*, Pl. 9, 23.
- b. Obverse of Selinus over rev. of Metapontum; Selinus rev. similar to IVa.
- c. Selinus obverse on Metapontum rev.; Selinus rev. also clear.
- d. Outline of r. lobe of parsley leaf discernible on r. of Metapontum obv.; characteristic Selinuntine punch shows on rev.
- e. Selinus rev. clear on obv. of Metapontum; faint traces of leaf on rev.
- f. Kneeling figure and bearded face of satyr on rev. of Metapontine stater; four-part incuse on obv. of Metapontine stater.
- g. Torso of rider with upraised spear on obv.; head of river god to r. on rev. at right angles to barley ear.
- h. GEAA visible on rev.
- j. Head and ears of Pegasus to r. above outer awns of barley ear; on rev. bell of helmet and profile of Athena to r.

- k. Both sides in relief. Head of Pegasus at upper right of type as placed; head and profile of Athena at right angles to barley ear with edge of punch cutting the ear at the right.
- m. Top of tripod of Croton in lower r. field of Metapontum obv. This coin is illustrated by L. Sambon *Monn. . . . presqu'ile ital.*, Pl. XX, 13.
- n. A *sigma* and the curls which are visible outside the leather neck-piece of the helmet enabled Mr. Hill to identify this under-type as BMC *Corinth* Pl. VIII, 6.; the body of Pegasus crosses the barley ear of the reverse.

Group IV consists of Metapontum overstrikes, both incuse and double-relief, other than those previously mentioned. Most of these are to be placed among the latest issues of incuse staters for that city. Another Sicilian mint Selinus, is to be added to those of Group III. These five Selinus staters, in conjunction with IIIi, Va and VIa give that mint a relative prominence that is surprising. Additions to this list may be predicted. From Thucydides VI, 8, we learn that in 415 Eggestaeans returning with the Athenian envoys, brought sixty talents of *uncoined* silver as a month's pay for sixty ships which they were to ask the Athenians to send. What was the source of this silver? In terms of the theory which has been discussed, could not Selinus have earlier paid Metapontum for some commodity (grain?) in coined silver?

The last three pieces in this group are double-relief issues struck over other double-relief pieces, of which two are Corinthian. Most Corinthian double-relief staters escaped overstriking until after or about 470. The standard of the Thasos coin is considerably higher than its present weight. The *Historia Numorum* gives the range at Thasos as from 9.07 to 10.67, whereas this piece now weighs 7.55, an appreciable loss or adjustment.

A stater now at Oxford (IV 1) was published and reproduced by Sutherland (*NC*, 1952, p. 115). The Corinthian undertype is of Ravel's Class II, the early thick flan with the head of Athena to right in a small incuse. The Metapontum over-type is my No. 246 which I now would date about 470.



## GROUP V

Croton, with recognized undertypes mostly Sicilian. PLATE IX.

	<i>Croton Type</i>	<i>Undertype</i>	<i>Weight</i>	<i>Location</i>
a.*	Incuse eagle	Selinus	8.00	Siracusa (Atti e Mem. III, 1917, p. 38, Pl. III, 6)
b.*	„ „	Agrigentum	8.10	B. M., NC 1919, Pl. I, 3.
c.	Tripod incuse	„	7.87	BMC Croton 16.
d.*	„ „	„	7.70	ANS-ETN
e.*	„ „	„	7.97	ANS-ETN
f.*	„ „	„	8.04	ANS-ETN
g.	„ „	„	7.86	Hoyt Miller Coll.
h.	„ „	„	7.77	DeNanteuil Coll Cat. 217.
i.	„ „	„		Salinas, Mon. Ant. Citta Sicil. Pl. IV, 14, Sambon Coll.
j.*	„ „	Gela	8.08	ANS-Field Coll.
k.*	„ „	„	7.70	Oxford, Ashmolean
l.	„ „	Corinth	8.07	„ „ ex Nav. V, 671
m.*	Double Relief	Corinth	7.80	Locker Lampson Cat. 44.

## NOTES ON UNDERTYPES

- a. The top and sides of the middle lobe of the parsley leaf are below the foot of the tripod; on the rev. there are traces of the incuse showing to the left of the wings of the eagle.
- b. The back of the Agrigentine eagle (facing left) with the letters A. .A above crosses the tripod diagonally; the reverse shows the legs of the crab in front of and above the incuse eagle. Diameter 18 mm. cf. Salinas, IV, 9.
- d. The back of the eagle (to left) in the r. field of the reverse of the Croton stater with the inscription in four small letters (retrograde) near the rim—cf. Salinas Pl. VII, 5; the obverse shows the legs of the crab in the lower right field.
- e. The eagle facing to right has its head in the r. field of the reverse of the Croton stater; the legs of the crab cross the body of the heron
- f. The feet of the eagle (facing r.) show in the lower right field of the Croton reverse; on the obverse, the claws of the crab are in the exergue with the edge of the shell and traces of the legs in the l. field.
- g. The claws and legs of the crab show in the r. field of the Croton obverse; the reverse shows traces of two letters (?).

- h. On the Croton obverse the letter K shows on the body of the heron in the right field; the claw of the crab is to be seen in the l. field of the reverse.
- i. Eagle to l. on the Croton obverse; crab with claws in the r. field of the reverse. Present whereabouts unknown.
- j. The profile of the bearded Gela river god shows on the bowl of the tripod at right angles to the type.
- k. The mount of the Gela horseman has its head showing on the Croton obv. exergue; the rivergod to r. on the rev. with the horn in upper l. field.
- l. Helmet and profile of Athena to r., diagonally, to lower r. of the Croton reverse.
- m. The hind-quarters of Pegasus to left show to the right of the eagle's head; the outline of the bell of the Corinthian helmet is visible on the left leg of the Croton tripod.

Because the sequential order of the Croton *incusi* has never been worked out, placing the issues chronologically is extremely difficult. Those with the eagle reverse are more numerous than is generally realized; I have assembled forty-six varieties, counting each die-combination as a variety. They range in diameter from 27 mm. to 18 mm., with the larger ones coming first. The smallest of them match the smallest of the Metapontine *incusi*; the largest are of the diameter of the latest Sybaris staters. The first two coins of our list are of this eagle reverse type. The first, over Selinus, from the Curinga Hoard, was published by Orsi (*Atti e Mem.* III, 1917, p. 31) as over Metapontum, but traces of the characteristic Selinuntine reverse are discernible as well as the tip of the parsley leaf on the obverse. The second, measuring 18 mm. in diameter, is over Agrigentum. And Agrigentum supplies the flans for seven other staters in this list. This is another city whose coins have not been placed in sequential order, and as with Selinus, we derive very little aid in dating from these overstrikes. Gela supplies two of the overstrikes in our list. A single incuse issue of Croton (Vo) has been found struck over a Corinthian stater. And in the double-relief coinage, I have found but one piece, over a Corinthian stater also of double-relief. Possibly the high relief of the Corinthian staters would have played havoc with

the dies of the incuse form. Under the importation theory, the silver for Croton's coins would have come from Sicily rather than Corinth.

## GROUP VI

Caulonia overstrikes in double relief only. PLATE X.

<i>Undertype</i>	<i>Weight</i>	<i>Location</i>
a.* Selinus	7.80	ANS—ex South Italian Hoard.
b.* Thasos (or Lete)		Berlin
c.* Agrigentum	7.90	E.S.G. Robinson Coll.
d.* Leontini		Berlin; cf. ZfN IV, p. 332.
e.* New Sybaris	8.05	ANS—ETN (under type DeLuyness 557).
f. New Sybaris?	7.65	Sambon-Canessa Sale, 1927, 490.
g.* Agrigentum	7.82	Cambridge, McClean 1598.
h. Gela or Corinth	7.76	Lockett Coll., SNG III, 585—Sale 470.
i.* Corcyra	7.83	Oxford Lockett Coll. SNG III 587—Sale 472.
j.* Ambracia (Rav. 8—9)	7.90	Paris (DeLuynes 696).

## NOTES ON UNDERTYPES

The above list is in progressive sequence, the earliest piece dating c. 488.

Friedlander in *Zeit. f. Num.*, IV, 1877, p. 344, lists a Berlin coin of Caulonia struck over one of Agrigentum. Further, if his mention of a striking over a Leontini didrachm is other than (d) listed above, there must have been a second specimen. He states that the barley-corns surrounding the lion's head are discernible. The above cast does not show any of these.

- The outline of the right lobe of the parsley leaf shows above the back of the stag. The lines of the middle lobe are distinguishable on the coin, but too flattened for the camera to record.
- The torso of satyr? facing right shows to the left of the stag.
- The legs and body of the eagle with. K above its back are visible on the Caulonia reverse. On the obverse, the left claw of the crab in a very small incuse shows in front of the torso of Apollo.
- The mouth of the Leontini lion, facing right, is clearly discernible on the rump of the stag.
- Compare reproduction of the unique Paris specimen of the under type. The back of the bull and the VM of the inscription are clear. The identification is Mr. Newell's.
- Cf. entry e. above.

- g. The outline of the body of the Agrigentine eagle to r. crosses the fore-legs of the stag.
- h. The hind-quarters and what may be the wings of Pegasus to right are at right angles to the body of Apollo; the reverse shows only a long-nosed profile to r. The Sale catalogue believes the type Corinthian, Gela is a possible substitute.
- i. Traces of the back of the cow to the right of the stag; characteristic Corcyra reverse in the exergue of the Caulonia rev. The normal weight of Corcyra staters is between 10.37 and 11.66, whereas this coin weighs 7.83.
- j. The bell of the Corinthian helmet shows above the stag, and the spray with three berries at the left, fixes the variety as that of Ambracia (Ravel 8 or 9); the hind quarters of Pegasus to right are clear on the reverse.

This group of Caulonia overstrikes in double-relief is interesting for the diversity of the mints represented in the undertypes. Although the change to double relief seems to have been earlier in this mint (and in Poseidonia) than at Metapontum and Croton, overstriking appears soon after the transition. Caulonia was destroyed in 389. Overstrikes are more prevalent among the earlier issues with both sides in relief. In these early double-relief staters, Sicily is better represented than Corinth.

The most important piece in this group is an acquisition (and identification) of Mr. Newell's (VIg). It is imposed on a Sybaris issue like the unique stater in the DeLuynes Collection of the Cabinet des Médailles (557-Traité 2098). The diameter of piece is 22 mm. as compared with 27-30 mm. for the staters struck by Sybaris before 510, and the Newell stater of Caulonia is of the same diameter. The flan is correspondingly thicker than the other *incusi*. It is generally considered to have been struck in one of the several attempts to re-found Sybaris (cf. the careful study of this piece by Miss Breglia in *Annali* II, p. 17 ff.). The Caulonia type comes fairly early in the double-relief coinage, about 475-470 in my judgment. Its normal weight shows the Paris coin to have suffered loss in some way. Accordingly a date for the original striking would be between 510 and 465.

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Leontini is added to the cities of Sicily supplying flans; staters of Ambracia and Corcyra under late issues of Caulonia support the statement that by this time silver ore was being mined in Illyricum. An early overstrike on a Thasos (?) coin was at Berlin.

## GROUP VII.

Tarentine staters, mostly over Corinthian types. PLATE XI.

<i>Vlasto No.</i>	<i>Over</i>	<i>Weight</i>	<i>Location</i>
<i>Wheel-type reverse over Corinthian double-relief.</i>			
a.	<i>Beschreibung</i> . p. 32, 48	8.11	Berlin
<i>Hippocamp reverse over Corinthian double-relief.</i>			
b.*	Auct. C. R. Collier Coll, 3/9/56, 1503 (Vlasto Coll. Cat. 139)	7.85	Whereabouts unknown.
<i>Seated Oekist Type.</i>			
c.*	14 Bb	Corinthian <i>Traité</i> ccviii, 7-12	7.71 Paris, DeLuynes 273; Ravel 247?
d.*	9 c	Corinthian <i>Traité</i> ccviii, 10	Naples ,, 300?
e.*	16 I obv.	7.96	Ashmolean, Oxford ,, 301
f.	17 Af	8.02	Paris, DeLuynes 279, ,, ?
<i>Horseman Types.</i>			
<i>Evans No.</i>			
g.	III	Corinthian type	7.85 Taranto, Atti Vi, Pl. I, 5.
h.*	III M 1	,,	7.95 Locker Lampson Cat., 12.
i.	III M 1	,,	7.92 Berlin, Beschr. 155, Pl. xii, 184.
j.		,,	Vlasto Coll, Cat. 500
k.*	IV C 1	,, (Ambracia	A. S. Dewing Coll. Ravel 1058-60.
l.*	IV D	,, (Echinus?)	7.45 Lockett Sale 146; SNG 177.
m.*	IV F 3	,,	Vienna
<i>South Italian Mint.</i>			
n.*	III F 1	Cumae or Terina.	7.72 Vlasto Coll. Cat. 396.

## NOTES ON UNDERTYPES

- Athena head to r.; Pegasus l. described explicitly by Friedlaender in *ZfN.*, 1877, p. 329. No cast available.
- On the dolphin-rider side, Athena's profile (inverted) is in front of the dolphin. The hair-knot back of the rider resembles Ravel 208-9 more than Ravel's guess (307). On the hippocamp side, even the direction of the Pegasus is not clear.
- On the rev. the hind legs of Pegasus and the koppa are clear; the obv. shows traces of the edges of the punch.

- d. The bell of the helmet, facing l. (?) shows to l. of the oekist; the fore legs of Pegasus to r. are in upper l. field of the Tarentine obv.
- e. A koppa and crescent as on Ravel 299 or 301 (to r. of the helmet) show above the cicada of the obv. type; the head of Pegasus to r. in upper r. field of oekist side.
- f. The head and reins of Pegasus to r. (inverted) show below foot of the dolphin-rider.
- g. Head of Athena to r. with lambda in l. field on the rump of horse; faint traces of under type on rev.
- h. The profile of Athena, inverted, on neck of horse; the rump and hind legs of Pegasus to r. in l. field of rev. type. Identified by E. S. G. Robinson.
- i. Traces of wing of Pegasus (to r.?) on near horse of obv.; on rev., the leather neck-guard and locks of hair show clearly, with a letter? on arm of dolphin-rider.
- j. On rump of horse the E of Corinthian undertype (Ravel 984-6) on rev. The *koppa* shows on torso of Taras. Both letters are considered countermarks in Ravel's catalogue (No. 500) of Vlasto's Collection.
- k. On rev. outlines of helmet and letter N in angle behind the neck. (BMC Pl. XI, 9-10.) Other specimens of this issue show overstriking.
- l. Wing of Pegasus to l. on body of horse; hind quarters cross neck; on rev. hook symbol of Echinus (BMC XXXIII 12) crosses head of dolphin.
- m. Profile of Athena to r. on rev.
- n. Profile of large-scale head facing l. in upper l. field. Ravel suggests Terina or Cumae—the latter seems the preferable supposition.

At Tarentum, overstrikes on double-relief staters of Corinth or its colonies are not uncommon, but most of these come well after the seated oekist type had been initiated. One exception is II f, which may be over a swastika type. In the seated oekist series, we find both forms of Corinth's staters used a second time (cf. II g). The horsemen overstriking I have found are uniformly over double-relief staters of the city on the isthmus or its colonies, extending to as late as Evans Period IV. VII n is a probable exception. I have been

informed that an Agrigentan didrachm served as the undertype of a Tarentine piece in the Gagliardi Collection, but I have not been able to verify this. The use of Corinthian staters for overstriking at this mint and also at Locri together with the occurrence of 'colts' in Sicilian hoards, to say nothing of the borrowing of the type at Syracuse and Locri may be interpreted as indicating close commercial relations between these cities and Corinth. Since Tarentum was a necessary port of call for Corinthian shipping whether starting from home or from the Adriatic colonies, the predominance of Corinth's types among the overstrikes might have been expected. It is not clear, however, why overstriking was required for a currency with which the Tarentines must have been familiar.

At the Tarentine mint, when overstriking does take place, the undertypes have generally been obliterated with tantalizing success. I believe that additions to this group will be more numerous than to any of the others once the decipherment of unrecognized undertypes is given more careful study. Any sizable collection of Tarentine staters is likely to yield examples whose identification will be expedited by working from the coins rather than from casts on which faint outlines and other helpful indications cannot be detected easily. With Ravel's careful listing of the Corinthian issues as well as those of Ambracia the almost limitless variations among the Corinthian types for both obverse and reverse are frequently such as to enable us to reach a close approximation to the varieties which have been overstruck. Once undisturbed hoards can be obtained and studied, unanimity in dating should emerge and permit a reasonable measurement of the interval between the original and the overstriking.

Dr. Sutherland does not list, nor have I been able to find, any Tarentine staters which have been overstruck elsewhere.

#### GROUP VIII

##### Overstrikes of other South Italian Cities. PLATE XII.

<i>Restrike Mint</i>	<i>Undertype</i>	<i>Weight</i>	<i>Location and references</i>
a. Herakleia	Metapontum?	7.91	Berlin, Beschreibung IV, p. 320, 3 and NNM 91, Pl. 1, 4.
b.* Poseidonia	„	7.85	ANS ex Schlesinger 13, Hermitage Dupl., 101.
c.* „	Corinthian type	7.65	ANS

<i>Restrike Mint</i>	<i>Undertype</i>	<i>Weight</i>	<i>Location and references</i>
d. Poseidonia	Cumae	7.70	Br. Mus. ex Lloyd, SNG 435.
e.* Thurium	Leucas?	7.76	S. P. Noe Coll.
f.* „	Corinth	—	Berlin
g.* Locri (obv. only)	Anactorium	7.48	ANS-ETN Cf. BMC Corinth, xxxii, 10.
h.* „	Corinth	7.65	Cambridge. McClean 1799 and Grose Num. Chron. 1916, Pl. vii, 10.
i.* Hyria (obv. only)	Phistelia	7.46	E. S. G. Robinson Coll.
j. Rhegium	Athens	16.85	Paris, DeLuynes 791 (462 420).
k. „	„	16.90	Br. Mus. SNG II, 678.
l.* „	„	15.97	Munich
m. „	„	16.95	Egger XL, 277 (Berlin?).
n. „	Messana	17.00	Imhoof-Bl. Coll., Z. f. Num. V, p. 143.
o. Terina	Selinus (Hypsas)	7.62	Z. f. Num. IV, 332 & 344; Regling Terina 36c.
p. „	Neapolis	7.59	Cambr. McClean 1959 Regling Terina 33a.
q.* „	Agrigentum	7.76	Br. Mus., Lloyd SNG 754.
r.* „	„	8.05	Gotha Regling Terina 18e.
s.* Neapolis	Croton	7.61	Oxford ex Egger XLVI, 13.

## NOTES ON UNDERTYPES

- The characteristic border for late Metapontine issues supports this identification.
- Top of barley ear is in r. field near foot of Poseidon. Rev. Base of barley ear (incuse) to r. of head of bull. Undertype border clear. Die-position of undertype ↑↓
- Bell of Corinthian type helmet in exergue of rev. Head and forelegs of Pegasus to r. in exergue and l. field of Poseidonia obv.
- The head of the Cumae obv. on obv. of Poseidonia.
- Profile of Athena (inverted) in obv. r. field; a leaf or grape-cluster symbol discernible above body of Scylla. Hook of helmet in front of chin.
- The body and wing of Pegasus to l. crosses the mid-riff of the bull.
- The bell of helmet (to l.) is under the wing of the eagle, with monogr. AN clear.
- Head of Athena to l. under head of Zeus with pine-cone symbol of Corinthian type to r. Head and wing of Pegasus to l. above rev. eagle (as placed on plate).



- i. The distinctive letters .IST. of inscr. to r. of exergual line.
- j. Chin and lips of Athena to l. of nose-tip of lion-mask. Rev. Top of owl's head in extreme l. field at right angles to seated figure.
- k. The back of the Athenian owl and tip of olive twig beneath the seat.
- l. Back of neck of Athena and helmet-crest to l. and beneath seat; outline of chin at upper right. Rev. Owl's head over r. ear of lion-mask, with ΘΕ to right.
- m. Olive twig and head of owl are to l. of head of seated figure on rev.
- n. Recorded by Imhoof-Blumer as being in his collection—thence to Berlin. No cast.
- o. No cast available, but both Friedlaender and Regling identify undertype as Selinus.
- p. The letters crossing the breast of the rev. Nike mark it as an early issue of Neapolis—cf. A. Sambon, *Monn. Ant. d'Italie*, No. 335.
- q. The head and body of the Agrigentine eagle cross the face of the Terina nymph. On the rev. the eyes and edge of the shell of crab cross the lap of Nike. The undertype was not identified in the Sylloge.
- r. The Agrigentine eagle to r. crosses the lap of Nike diagonally. No trace of overstriking on obv. Regling did not recognize the undertype.
- s. The obv. of the Croton tripod (in relief) crosses the body of the bull diagonally. The incuse (?) rev. shows r. leg of tripod across bell of helmet.

This group would be greatly extended if pieces with unrecognized undertypes had been included. Some of these will probably yield to study in time. The mutilation caused by overstriking often results in undervaluation when the overstriking is not appreciated as such.

VIII b shows a late Metapontum incuse stater used at Poseidonia for one in double-relief; a striking demonstration, it seems to me, that at the time of overstriking this incuse coin would no longer be accepted in circulation there. Else, why was it overstruck? There are probably many more Poseidonia overstrikes than I have been able to locate. Note also, I b, c and f. The small-scale flan of this piece indicates its lateness, which is confirmed by the die-relations

of the incuse type, which are not normal. The Metapontum reverse die is inverted, with the tip of the barley ear at the base of the reverse incuse. This phenomenon is found in a few of the latest *incusi* for this city, just before the change to double-relief, and is an indication of carelessness about having the reverse die in its upright position.

For at least one type of its coinage, overstriking at Locri seems to have been prevalent, with Corinth or its colonies supplying the flans. One wonders why this took place, when the Corinthian type was adopted for the coinage of this city so shortly afterwards.

Athenian tetradrachms were overstruck at Rhegium and Cyrene as well as at Messana. The deeply impressed "owls" did not lend themselves to the process. In the light of their acceptance as an international currency, why in these cities alone was the operation necessary?

Three of the four entries for Terina are in Regling's "corpus," but he did not recognize that the undertype for VIII o was Agrigentum. That this city provided the flans in two of the four cases and Selinus the third shows a lack of contact with Corinth that is not surprising for this inland mint. Regling also cites a Terina stater struck "perhaps" over one of Metapontum. (his 31a).

## GROUP IX

## Sicilian Overstrikes. PLATE XIII

<i>Restrike Mint</i>	<i>Undertype</i>	<i>Weight</i>	<i>Location and reference</i>
a. Catana	Selinus	17.30	Paris, DeLuynes 894.
b. "	"	17.47	Commerce—Dr. Hirsch.
c. Entella	Catania	3.86	Cambridge, McClean 2230.
d. "	"	3.93	" " 2231.
e. Gela	Mende	17.20	Burtin Y. Berry Coll.
f. "	Selinus	17.45	N.Y., Ward Coll., M.M. of A., No. 149.
g. Leontini	Catania	16.63	Lockett Sale 682, SNG II, 800
h. Messana	Leontini	17.15	ANS
i. "	Athens	—	Baron Pennisi Coll. Rizzo, Pl. XXV, 12.
j. Segesta	Camarina	8.50	Egger XLV, 324; Rizzo pp. 286–7.
k. "	Syracuse	15.60	Berlin; Lederer 11a.
l. "	"	17.15	Jameson Cat. 716; Lederer 11b.
m. Syracuse	Catania	16.84	ANS (ex Magnaguti Sale, 338).
n. Messana	Messana cf. Jameson 644)	17.10	McClean 2381 (identified by Dr. Kraay).

## NOTES ON UNDERTYPES

- a. The feet of Apollo, the altar with the cock, and the bull with the parsley leaf above show beyond the periphery of the smaller die of Catana. Portions of the Selinuntine inscription of the reverse, along with the heads of two charioteers in the exergue confirm identification.
- b. Similar and only slightly less obvious.
- c. Profile of the Catana undertype to left with crayfish in front of chin above the back of the horse. The horses and charioteer to r., at left of helmet as placed.
- d. Similar and nearly equally clear. Cf. Imhoof-Blumer, *ZfN* V p. 143 for citation of other overstrikes.
- e. The head of Dionysus, his extended arm holding kantharus and the long ears and head of his donkey are to be seen above the upper type. The heavy border belongs to the undertype which seems closest to No. 55 of the Kaliandra Hoard pieces. Very little more than the outline of the reverse die of the undertype is visible. For Gela compare Hirsch XIII (Rhousopoulos) 313, from the same dies.
- f. The traces of the Selinus undertype are faint but unmistakable. The identification made by Sir George F. Hill.
- g. The club-knot of hair of the Catana undertype crosses the neck of the obverse; Rev. The head of the charioteer shows to the l. of the upper type to which it is at right angles.
- h. Of the Leontini undertype, the head to r., the leaf back of it and the last two letters of the ethnic show. Rev. In the exergue, the head of the charioteer to r., the flying Nike and the heads of the two horses show clearly.
- i. The head of Athena (inverted) to left of the charioteer; part of the crest at the r.
- j. See enlargement on next plate.
- k. & l. Imhoof-Blumer and Lederer are agreed in identifying the undertype as Syracuse on the strength of the KO of the inscription belonging to the undertype—in the same relative position to l. of the figure of hunter.
- m. On the rev., the head of the Catana undertype shows, with the tips of the wreath above the head of Nike and the last two letters of inscription to the left of the charioteer.

The first thought in examining the coinages of Sicily for overstrikes was the rounding out of the list for this section of the Greek world. A survey of the recorded overstrikes at the mints of this island discloses that it was more prevalent in some than in others. Between 470 and 460 the South Italian cities overstruck didrachms of Agrigentum, Gela, Leontini, Selinus and even (in one instance) Syracuse. But no South Italian staters have been found re-struck in Sicily. Most of the Sicilian overstrikes are over flans of neighboring cities of the island. When further specimens have become available, it will be less risky to generalize. The danger of deductions made from isolated occurrences is obvious. The reason for IIj, Selinus over Corinth, is hard to discern and so is that of IXe, Gela over Mende.

The geographical resemblances between Sicily and South Italy are striking, and this has a marked influence on the political development of both. Sicily was an island. The Greek cities of the mainland were on a peninsula, a "presque-ile" with a hinterland, which as soon as its inhabitants became unfriendly, made as effective an isolation as did the Straits of Messina. Proportionately, overstriking in Sicily is less prevalent than on the mainland and the causes are complex rather than single. But we are faced with irksome questions such as "Why were tetradrachms of Athens, so widely accepted throughout the Greek world, overstruck at Messina and at Rhegium?" Overstrikes on coins of Catana, if they can be shown to be dated after the ruin of that city, have an added significance. The absence of overstruck issues of Naxos, Himera, Eryx and Zancle is to be laid to the difference between the weight-system they used and that of the other cities. No overstrikes by the mint at Agrigentum have been found, nor have the issues of that city been used a second time at Sicilian mints, although they have supplied flans for Metapontum, Croton, and Terina. It seems to me that any interpretation of this as indicating that Agrigentum "exported" silver to these cities in the form of its coins deserves rejection.

The tetradrachm of Mende overstruck by Gela is arresting. It seems most reasonable to see in this a replacement in circulation of a coin which would not have passed otherwise, in which respect I see a resemblance to IIa, Selinus over Corinth. Mr. Jenkins kindly informs me that the date for the Gela issue is "almost exactly 460."

The Leontini undertype of IXg with its echo of the exergon on the Demareiteon must be dated not far from 479. We cannot be so confident in dating the Messana type.

IXj, Segesta over Camarina, is a piece important for the chronology of both mints as Lederer recognizes in publishing this piece (*Berl. Münzblätter*, 1919, p. 407). He dates the Segesta over-type as 416/5. Rizzo does not venture a date for the undertype other than "before 405," but if Lederer is correct, it must be placed before the date he assigns, with the signature of Exakestidas, once his *floruit* is fixed, permitting a close dating.

Whether the Sicilian fractional issues which have been overstruck will reward study is problematical. They have not received herein the attention they deserve. The infrequency with which they are reproduced is a deterrent. One piece in Sutherland's list (No. 978 of the DeLuynes Catalogue) must be deleted (Himera over Syracuse). Four letters of the first striking and what seem to be the legs of Pegasus are visible, and the letters have been read as ΣION. Since Syracuse is the only Sicilian mint which employs this termination, there seemed small reason to doubt the correctness of Babelon's interpretation. But the Himera coin would have to be dated before 409 when that city was destroyed, and the Syracuse issue with Pegasus on the reverse comes much later. The identification of the Himera type is not open to question since a specimen in London (B. M. C. Sicily, 39) bears that ethnic in full. There remained only a checking of the reading of the inscription. The illustration showed that there was a possibility that this might be AION rather than ΣION. What we have, then, is a coin which, originally struck imperfectly, was turned over and struck a second time from the same pair of dies.

Anyone who examines the deductions which have been made by previous investigators might ask "How does one become sure that a given piece is overstruck when *all* traces of such an operation are obliterated?" Is it necessary to believe that *all* flans were re-used issues of other mints? Even supposing such to be a possibility, how can one be sure from which mint the issues came, how tell whether struck over Corinth or Selinus, Gela or Dyrrachium? A proponent of the proposition that Metapontum's silver came from Selinus rather

than Corinth might urge that the ingot in the Taranto Hoard illustrated in the *Revue Numismatique* for 1912 (p. 32), bearing the individualistic reverse punch of Selinus, showed unmistakably that Selinus was exporting silver ore in that form to South Italy rather than in the form of staters already coined (cf. Group IV). And doesn't the style of the reverse punch for the early coinage of Selinus have as much claim to have influenced the incuse format as the swastika reverse of Corinth? Why say that either did?

In attempting to evaluate the evidence submitted, we shall do well to bear in mind that it is incomplete. Many of the exceptions taken herein to the conclusions of Gardner and those who have followed his reasonings are based on data not previously available. Overstriking as yet unrecognized will provide additions. These lists will provide hints as to where further search is most likely to prove fruitful. However, we already have a reasonably good cross-section. What, then, may we read from the evidence in hand?

From the evidence presented by Ravel, does it not seem that the coinage at the mint of Corinth was not an extended one until after the change to the double-relief form? A stater of Corinth struck over a coin of Thasos (?) found in an Egyptian Hoard (*Zeit. für Num.*, 1927, p. 125, Pl. V, 233) seems an insecure foundation for Dr. Milne's conclusion that Corinth obtained silver for its coinage from Paeonia (*Greek and Roman Coins*, p. 19; cf. also *Num. Chron.*, 1938, p. 48). This is the only identifiably overstruck stater of the early style of Corinth I have found. Whether silver was obtained from Paeonia or from another source nearer home, can we believe Corinth obtained silver ore in sufficient quantity to "export" it in the form of coins previous to the time we find them overstruck at Metapontum, i.e., after 510? And why, even then, should we have swastika-type staters being overstruck when double-relief staters had been circulating in Corinth for years, probably for decades?

I hold that this condition changed soon after the cities of South Italy shifted to coinage in double-relief. Overstriking was much more easily accomplished after the diameter of the staters of both parties had been equalized. At Tarentum, witness Group VII, it is rare to find staters other than those of Corinth serving as flans, whereas at Croton the issues of Sicilian cities seem to have been preferred.

At Locri, where overstriking Corinthian type issues can be dated as having occurred after 330, the colonies supplied the flans as often as Corinth. After 470, overstriking on Corinthian-type flans are not uncommon. How then are we to explain the absence of Corinthian coins from the recorded hoards?

For what value it may have, I submit as my answer to some of these queries, that I believe that the theory that silver was "exported" in the form of coins has been given far too great emphasis. I have tried to show that the *incusi* do not supply evidence for it until after 510. I am persuaded that there is no single cause that will explain all overstrikes. The reason for overstriking may have changed in one period from that which obtained in another. Group III indicates that an emergency may have been its cause. Thanks to the contribution made by Ravel, the sequences for Corinth and Ambracia have been established fairly convincingly. If we had similar studies for Agrigentum, Gela, Selinus and Croton, we should be in a position to approximate the dating of the overstrikes using the issues of these cities. But until scholars can reach a closer agreement for dating the issues of these mints, the value of overstrikes for establishing a definite chronology is bound to be controversial.

SYDNEY P. NOE

## THE EARLIEST COINS OF ILIUM

(SEE PLATE XV, 1-7)

1. Unit. Head of Athena r. in crested Athenian helmet. Circle of dots. To r. |Α| Athena Ilias l. wearing polos and long chiton; in l. filleted distaff; with r. holds spear downward over shoulder.  
Gotha, 5.20 gr. [PLATE XV, 1]; BM, 5.88 gr., 4.70 gr.; Berlin, 5.30 gr.; Oxford, 5.60 gr.; Munich, 5.62 gr.; Hague, 5.20 gr.
2. Unit. Same. Same, but in field l., palm branch.  
ANS 4.92 gr. [PLATE XV, 2]; BM, 5.50 gr.; Berlin, 5.30 gr.; Oxford, 4.91 gr.; Paris, 4.87 gr.
3. Half. Head of Athena l. in crested Athenian helmet. Similar inscription and type.  
ANS, 1.90 gr. [PLATE XV, 3], 2.30 gr., 2.0 gr., 1.50 gr.; Oxford, 1.78 gr. [PLATE XV, 4], BM, 1.90 gr., 1.70 gr.; Berlin, 1.68 gr.; Munich, 2.07 gr.; Hague, 2.20 gr.; Weber Coll. III, 1. No. 5381, 1.94 gr.
4. Quarter. Head of Athena r. in crested Athenian helmet. To l. |Α; to r. | Hydria.  
ANS, 1.15 gr.; [PLATE XV, 5], 1.17 gr.; Munich, 1.07 gr. [PLATE XV, 6]; BM, 0.92 gr.; Berlin, 0.93 gr., 0.78 gr.; Vienna, 0.80 gr.; Copenhagen, 1.10 gr.; Cambridge, 1.05 gr.; Paris, Troy.
5. Quarter. Same. Same, but in field l., palm branch.  
Istanbul, 0.94 gr. [PLATE XV, 7]; Berlin, 1.04 gr., 1.02 gr.



The question of the relations to Ilium of Alexander and Lysimachus has occasioned controversy which can only be understood by having recourse to the capital authority, Strabo, XIII, 1.26: "They say that the city of the present Ilians was for a time a village having the sanctuary of Athena which was little and poor, but that Alexander going up after the victory on the Granicus adorned the sanctuary with offerings, gave the place the title of a city, ordered the authorities to improve it with buildings and declared it free and exempt from tax; and that after the collapse of the Persians he sent a friendly letter promising to make the city great and the sanctuary most famous, and to found a sacred contest. And after his death Lysimachus was particularly attentive to the city and built a temple and surrounded it with a wall about forty stades in circuit and incorporated in the city the surrounding towns which were old and deteriorated, when he had already given attention to Alexandria which had already been formed by synoecism by Antigonos and called Antigoneia. He changed the name, for it seemed proper for the successors of Alexander to found cities bearing his name instead of their own. So it continued and increased and now it has received a colony of Romans and is one of the famous cities."

To this section George Grote in his *History of Greece* I, p. 300 (edition of 1892) objected in the light of the beginning of Strabo's next section:

"And the Ilium which now exists was a mere village when the Romans first landed in Asia and drove Antiochus the Great beyond the Taurus. At least Demetrius of Scepsis says that when he was a lad he visited the city at that time and found the place so run down that the houses did not have tile roofs. And Hegisianax says that when the Gauls crossing over from Europe went up to the city in need of a stronghold they left it at once because it had no walls; later it had a great revival."

Objecting to the discrepancy between these pictures of Ilium, Grote concluded that it was in fact Alexandria alone which was benefited by Lysimachus, and emended the text to produce that meaning. He convinced Dörpfeld (*Troja und Ilion* pp. 207f., 645f.) and Leaf (*Strabo on the Troad* pp. 15, 142-144) who produces his own version of the text, to the same effect. A. H. M. Jones agrees (*The Cities of*

*the Eastern Roman Provinces* p. 385, notes 22, 23). Brückner dissented, however (*Troja und Ilion* p. 582) and so does Robert, who after reviewing the evidence comes to the conclusion that the emendations cannot stand and that Lysimachus did benefit Ilium as the text states (*Études de Numismatique grecque* pp. 7f.). The question deserves to be reconsidered only because von Fritze puts the beginning of the coinage at the time of Alexander's visit, 334 (*Troja und Ilion*, p. 502), Brückner at the time of his death (*ibid*, p. 577), Wroth says "none of the autonomous pieces can well be assigned, from the criteria of style and fabric, to a date earlier than circ. B.C. 300" (*BMC*, pp. xxvf.), while Leaf makes the astonishing statement "no coins of Ilium are known earlier than the arrival of the Romans in 189" (*Strabo on the Troad* p. 146). It is necessary, therefore, to review the evidence.

Strabo's main authority for the Troad is Demetrius of Scepsis, who wrote a geographical commentary on Homer. As a native of that part of the country about a century and a half earlier than Strabo he is obviously a source to be respected. Unfortunately, local pride sometimes got the better of him, and he belittles both Ilium and Alexandria Troas; Strabo's section 25 preserves some of his argument against the identification of the Ilium of his day with the Homeric Troy. His work and influence are discussed at length by Leaf (*Strabo on the Troad* "Strabo and Demetrios of Skepsis" pp. xxvii-xxlvii). We must endeavor to distinguish remarks appropriate to the time of Demetrius (e.g. Strabo XIII. 1. 1 where the Troad is spoken of as in ruins and desolate) and those appropriate to Strabo's time (e.g., the mention of the Roman colony at Alexandria Troas in Strabo XIII. 1. 26). It is presumably Demetrius who is responsible for the error of putting Alexander's visit after the battle of the Granicus whereas our other sources agree that it came before the battle (Arrian I. 11-13; Diodorus XVII. 17f.; Plutarch, *Alexander* 15f.).

But there is no reason to doubt the benevolence of Alexander toward Ilium which was expressed on three occasions: at the time of his visit he gave it the title of *polis*, *eleuthera* and *aphoros*, made offerings in the temple and ordered some unspecified building; later, after the overthrow of the Persians, he promised to make it great, and its sanctuary famous and to institute sacred games (the section

of Strabo quoted above); finally, in his will he left instructions for the building of a temple of unrivalled splendor (Diodorus XVIII. 4. 5. The much-debated question of the authenticity of Alexander's will hardly affects us. There would be no point in including even in a forgery a proposal to build a temple if Alexander had already built it. We may conclude that the temple was put up after his death).

Von Fritze rightly connects the amphora and palm of the earliest coins with the sacred games. But these were not even promised at the time of his visit; their institution is spoken of in the letter "after the overthrow of the Persians." The coins certainly did not anticipate the institution and cannot therefore belong to 334. How early can we put the beginning of the games? "After the overthrow of the Persians" presumably means later than the battle of Gaugamela in 331. But was this promise fulfilled any more than that regarding the temple? Brückner, who believes that the coinage began soon after Alexander's death in 323, must suppose that the games were begun then also, if he accepts the connection. But this does not seem likely. The essence of a sacred agon is that it should be recognized outside the place where it is held. The classic models, of course, are the games at Olympia, Delphi, Nemea and the Isthmus which attracted competitors from all Greek lands. The games at Ilium could obviously aspire to no such general fame, but they could not, on the other hand, be merely a town festival; they must be the center of a larger community. We do know in fact how the celebration was conducted by a League of Cities with a Synedrion as administrative body, for an inscription of about 306 records its decree (Dittenbarger *Sylloge*,<sup>3</sup> 330. Not before 306, for Antigonus is called "King," line 25; nor much later for he is named without the royal title, line 9). "Certainly at that time" says Brückner "the League included all the Troas with Antigoneia and was founded by the will of Antigonus" (*Troja und Ilium* p. 578). No more suitable occasion than the synoecism of cities which became Antigoneia about 310 can be found for the creation of a community which could support the sacred games in honor of Athena Ilias. Nevertheless, it would be a mistake to assign to this date the coins with the amphora. If Antigonus allowed Ilium to strike money, why should he not grant the same privilege to his own creation, Antigoneia? He is notable for his conservatism in monetary

matters, continuing to use the name and types of Alexander even after he himself had taken the title of king. Doubtless Ilium was technically independent and was the site of the festival, yet it was not she that controlled the games but the League. Brückner, from the illuminating material that he has gathered about its organization (*ibid*, pp. 578f.) shows that originally "it was the League which possessed the sanctuary, not the municipality of Ilium" and that only later did that town appear as the chief authority with which the other cities were associated. The new state of affairs may be seen in *Sylloge*,<sup>3</sup> 355 of about 300, that is, of the time of Lysimachus. These considerations, combined with the evidence of relation within the first group of coins, lead us to consider Wroth's date of 300 as the proper one for the opening of the mint.

Grote's and Leaf's attempt to transfer the benefactions of Lysimachus to Alexandria encounters two objections which weighed heavily with Robert. First, the statement that Lysimachus "was particularly attentive to the city" (μάλιστα τῆς πόλεως ἐπεμελήθη) coming after the recital of Alexander's promises is perfectly appropriate to Ilium; if his favor had been transferred to Alexandria the word used would surely have been μάλλον. Second, the mention of the temple (νεών) is a natural consequence of Alexander's proposal to make the sanctuary famous. It would naturally be understood of the temple of Athena Ilias, the temple par excellence of that region. If it refers to Alexandria it would presumably mean the temple of Apollo Smintheus, but surely Antigonos cannot have founded his Antigoneia without providing it with a temple. To these objections I would add a third. The incorporation in the city of the surrounding towns must certainly apply to Ilium, for synoecism is precisely what had given being to Antigoneia and Lysimachus would have found no surrounding towns to incorporate when he renamed the city Alexandria. Leaf attempts to anticipate this objection by pointing out that Rhoeteum and Gergis were not incorporated until Roman times; he believes that the mention of the synoecism is simply an error of Demetrius (*op. cit.* p. 143). But there were other places that might have been included. Robert summarizes the conjectures and remarks that the combination must have disintegrated rapidly, a phenomenon with plenty of parallels (*op. cit.* p. 8, note 2).

4.

But though in other respects the account in the text is entirely plausible there is one serious discrepancy. Of the wall forty stades in circuit there is no trace. Not only is Ilium represented as unwalled at the time of the Gaul's coming (Strabo, section 27), but it is clear from the site itself that there never was such a wall. Brückner attempted to prove that it had existed and had later been destroyed, but that explanation has been abandoned by everyone. There certainly was a Hellenistic wall (*AJA*, 1935, pp. 564; 1937, pp. 593 f.) but it was nothing like so large, whereas the remains show that Alexandria had a wall of about that extent. It is clear that Strabo, or Demetrius, made a mistake as to the size at least. It does not follow that his other items were wrong. Lysimachus is the most likely builder of the temple, which is the point of chief concern to us since the origin of the cult statue is related to it.

We are therefore justified in assigning Nos. 4 and 5 to this period. Von Fritze connects with them No. 3 (his No. 3) which he dates in the time of Alexander. No. 1 (his No. 4) and his No. 5 he dates about 300. His arrangement is based on the appearance of the statue of Athena. On No. 3 he believes there is represented the archaic statue which was standing when Xerxes sacrificed the thousand oxen on the acropolis (Herodotus, VII, 43) while on the larger coin (his No. 4) it is the new statue provided by Lysimachus for the new temple (*Troja und Ilion* p. 511). The difference is in the more archaic character of the former, the freer rendering on the latter of a figure "with flying draperies excitedly striding to the left" (*ibid* p. 502). It is true that his Plate 61 shows this contrast, but, as Lacroix has already pointed out (*Les Reproductions de Statues sur les Monnaies grecques*, pp. 107 f.) it is much less convincing if for his Plate 61, No. 4 one substitutes the piece in the BM or the ANS whose archaic stiffness is much greater than on the Berlin specimen. I quite agree that Lysimachus made a statue to go in his new temple, but I do not believe that it was a close but slightly variant copy of an earlier one which is illustrated on No. 2. Die-sinkings produce much greater variation than that in treating a single subject. This archaistic representation is just what one would expect for such an occasion. It is a copy of the Palladium, which is described by Apollodorus as "three cubits in height, its feet joined together; in its right hand it held a spear aloft, and in

the other a distaff and spindle" (III. 12. 3. Frazer's translation, Loeb edition, p. 39; see his full commentary in note 2, pp. 38-40). Surely no one at that time thought that it *was* the Palladium of whose fate there were many conflicting legends, but it is understandable that by the time of Appian a doubtful legend should identify the statue which escaped Fimbria's fire in 85 B.C. with the miraculous image fallen from heaven (*Mithridatic Wars* VIII, 53). Von Fritze's hypothesis that the earlier Athena is a "Typus dessen Vorbild bis in das VI. Jahrhundert hineinragt" seems to me most unlikely; it is certainly unsupported by evidence. We have already seen reasons for believing that the earliest coins do not come before Lysimachus. This is confirmed by the likelihood that the archaistic Athena is the cult statue for a temple which was the gift of Lysimachus.

The style and fabric of Nos. 1 and 2 is clearly early. The flans look like those of the somewhat larger Alexander bronzes and the circle of dots in the obverse is a fourth century feature which does not recur on the issues immediately succeeding. Moreover, the palm in the field (though it is referred to as an "olive branch" on *BMC* p. 57, No. 7) is reminiscent of that on No. 5 which von Fritze connects with the games. Newell, with his characteristic acumen had noticed this and wrote on the ticket of his specimen "Could this be a larger domination of v. Fritz's nos. 1 and 2? Note palm branch!"

To the interrelation of the group by type and symbol must be added the fact that it produces three denominations, the largest of which would make an appropriate counterpart to the common bronze of Alexander and so would provide the community with even the smallest change. It might seem that Nos. 4 and 5 were too small to be of much use. It is, on the contrary, a denomination already widespread in this region (E. Babelon *Traité des Monnaies grecques et romaines* III, Plates CLXIII-CLXIX). It is not possible to say, of course, whether the types were all issued simultaneously, or for how long their emission went on. We can only place them all in the period of Lysimachus' control, 300-281 B.C.

ALFRED R. BELLINGER







## A TETRADRACHM OF AZES II STRUCK AT SĀNGALA-EUTHYDEMIA\*

(SEE PLATE XV, 8-10)

In the Newell cabinet of the American Numismatic Society there is a tetradrachm of Azes II<sup>1</sup> bearing an apparently unpublished Kharoṣṭhi monogram. The acquisition by the author of a second specimen stamped with duplicate dies rendered possible its present attribution.

The tetradrachm may be described as follows:

King, diademed, holding up whip, with bow behind, on horseback r. In r. field unidentified symbol; corrupt Greek legend, ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ.

Rev. Pallas standing to r. with r. arm advanced; spear and shield on l. arm. In r. field, Kharoṣṭhi monogram  composed of three akṣaras:  (SAM = SAṆ)  (GA) and  (LA), arranged vertically (top to bottom) = SĀNGALA.<sup>2</sup> In l. field Greek monogram

\* The author is indebted to Mrs. E. T. Newell for the privilege of viewing her private collection and for her permission to illustrate her tetradrachm of Azes I in this article; Dr. A. S. Altekar who in correspondence, confirmed the interpretation of the Kharoṣṭhi Sāngala monogram; to Mr. N. H. Singer, who examined the first draft of the paper; to Mr. J. A. Yockers and to the members of the staffs of the ANS and the NYPL for their constant assistance.

<sup>1</sup> Vincent A. Smith was the first to assign certain coins to Azes II whom he considered to be the fourth king of the lines of Maues, with Azes I and Azilises occupying second and third in order. See *Catalogue of the Coins in the Indian Museum, Calcutta* (Oxford 1906) pp. 50-52. Smith named the dynasty Indo-Parthian because Maues invaded India from Arachosia which was a province of the Parthian Empire, Herzfeld, *Archaeological History of Iran* (London, 1935), p. 8. Sir J. Marshall corroborated Smith's view regarding Azes II in these words: "My excavations in Sirkap made it clear beyond question that there were two kings of the name of Azes"; *Taxila*, Vol. II, p. 772 (Cambridge 1951). However, on a purely ethnic basis, Marshall followed Cunningham in calling the dynasty Saka or Indo-Scythian. Marshall also inserted the name of Spalirises between Maues and Azes I (*op. cit.* p. 770).

<sup>2</sup> The futility of considering Sāngala as the name of a mintmaster must be emphasized here. This fact bears considerable weight in our later discussion.



✠<sup>2a</sup> and in lower l. another Kharoṣṭhi monogram 𑀘𑀓 reading, r. to l. INDI. Prakrit-Kharoṣṭhi legend, MAHATASA RAJATIRAJASA MAHARAJASA AYASA = 𑀮𑀸𑀓 𑀲𑀸𑀓𑀲𑀸𑀓 𑀲𑀸𑀓𑀲𑀸𑀓 𑀲𑀸𑀓𑀲𑀸𑀓, an inverted order of titles, which usually read, MAHARAJASA RAJATIRAJASA (or RAJARAJASA) MAHATASA AYASA = (coin) of the Emperor, King of Kings, the Great Azes.

Æ (base). 9.15 gr. (A.N.S. coll., PLATE XV, 8), 9.02 gr. (Author's coll., PLATE XV, 9).

The fact that the legends on our coins are faulty would seem to indicate that they were struck during the period of declining power of the Sakas. Poor orthography is a frequent occurrence on coins of Azes II. The approximate years allotted by Marshall to the reign of this monarch are A.D. 5–19.

Tetradrachms of Azes I, bearing usually faultless inscriptions, were struck on broad flans in contrast to the bulky pieces of Azes II. Moreover, Azes I is pictured holding a couched lance instead of the whip of his later namesake. A typical specimen of Azes I from the collection of Mrs. E. T. Newell is illustrated (PLATE XV, 10; 9.30 gr.).

A study of the first Kharoṣṭhi monogram revealed that it represents the name of the historic stronghold Sāṅgala,<sup>3</sup> one of the resistance centers during Alexander's campaign in India,<sup>4</sup> which,

<sup>2a</sup> This monogram reads ΣΑΠΥΛΑ and evidently represents the name of a Saka supervisor of several mints whose signature-monograms, sometimes in Greek and sometimes in Kharoṣṭhi, appear on coins of Azilises and Azes II in conjunction with various mintmarks. Cunningham read both monograms, but offered no satisfactory explanation (*Num. Chron.*, 1888, Pl. IX, 29, 31).

<sup>3</sup> (a) ΣΑΓΓΑΛΑ is a hellenized form of the Sanskrit *Sāṅgala*; cf. H. H. Wilson, *Ariana Antiqua*, (London, 1858) p. 196.

(b) In the map facing p. 264 of Andre Berthelot's *L'Asie Ancienne d'Après Ptolémée* (Paris, 1930) we find the name Sāṅgala-Euthydemia and on p. 286 the explanatory remark "Sāṅgala, baptisé par Euthydème".

(c) Erstwhile Cunningham conjectured that the title Euthydemia was bestowed upon the city by Demetrius, son of Euthydemus, during his Eastern campaigns; *Num. Chron.*, 1888, p. 210.

(d) Dr. Tarn preferred the inexplicable nickname Euthymedia; cf. W. W. Tarn, *The Greeks in Bactria and India*, (Cambridge, 1938) pp. 247–248 and 286–287.

(e) In the map of J. P. Vogel's *Ptolemy's Topography of India* the name Sāṅgala is given without any epithet; cf. *Archaeologica Orientalia in Memoriam E. Herzfeld*, (New York, 1952) G. C. Miles Ed., p. 228.

<sup>4</sup> Arrian "Anabasis of Alexander" V, 22–24 (Loeb Class. Lib., Harvard University Press, 1949).

according to the "Milindapañha," subsequently became the capital of Menander.<sup>5</sup> Our monogram indicates that Sāngala was an important mint-city during the Saka period. Dr. Whitehead believed that it must have left us some coins.<sup>6</sup>

The geographical position of Sāngala was fixed by Gen. Alexander Cunningham in his report for the Government of India during the period of his exploration of the ancient site in 1863. The place had been previously visited and described by the Chinese pilgrim, Hwen Thsang (Hiuen Tsiang), in A.D. 630. Evidently both had located the remains of the hill-fort between the Chenab River (Akesines, Chandrabhaga) and the rivulet Ayak (Apaga), 60 miles west of Lahore.<sup>7</sup> The map of Alexander's Empire in Baratta's and Faccaro's *Historical Atlas* gives the correct position of Sāngala.<sup>8</sup> In the maps of modern India in the *Cambridge History of India*<sup>9</sup> and in the *National Geographic Magazine*<sup>10</sup> the site is also accurately indicated; the former map referring to it as Sāngla Hill, the latter merely as Sāngla, its colloquial Panjabi name.<sup>11</sup>

According to E. Thomas, J. Prinsep was the first to suggest the idea that some letters and monograms on Bactrian and Indian coins may stand for mints,<sup>12</sup> but he never developed it. Charles Masson<sup>13</sup> and Prof. Wilson<sup>14</sup> shared Prinsep's view, but contributed nothing to its advancement.

It was not until the publication of Cunningham's epochal article,

<sup>5</sup> *The Questions of King Milinda* trans. from the Pāli by T. W. Rhys-Davids, Vol. I. Introd. (Oxford 1899).

<sup>6</sup> "Notes on Indo-Greeks", *Num. Chron.*, 1950, p. 212.

<sup>7</sup> A. Cunningham, *Archaeological Survey of India*, Vol. II. (Simla, 1871) pp. 38, 192-200 and "Map of the Panjab" facing p. 1; also his *Ancient Geography of India* (London 1871), pp. 179-191 and maps V-VI facing p. 104.

<sup>8</sup> *Atlante Storico*, Fascicolo 1-12, (Novara, Italy 1934).

<sup>9</sup> *The Cambridge History of India*, ed. by Prof. E. J. Rapson, Vol. 1 (New York, 1922), map facing last page.

<sup>10</sup> Map of India, *National Geographic Magazine* (Washington, D.C., 1946).

<sup>11</sup> *Num. Chron.*, 1950, p. 212. Dr. Whitehead at first accepted Dr. J. F. Fleet's identification of Sākala (Sāngala) with Sialkot, but he later reversed his opinion conceding that "competent authority (meaning Cunningham) had already placed Sākala elsewhere".

<sup>12</sup> *Essays on Indian Antiquities of the Late James Prinsep*, edited by Edward Thomas, Vol. I (London, 1858), pp. 55-57.

<sup>13</sup> *JASB* (1836), p. 545.

<sup>14</sup> H. H. Wilson, *op. cit.* p. 223.

"An attempt to explain some of the monograms found upon the Grecian coins of Ariana and India,"<sup>15</sup> that the problem attracted the attention of contemporary European numismatists.

The article was illustrated with a plate containing some 150 monograms, of which twelve were Kharoṣṭhi, the rest Greek; Cunningham ventured to read a number of these as names of cities taken from Ptolemy's map of India and from other classical sources. Symptomatic of the flood of criticism caused by Cunningham's ideas was an article by A. Chabouillet. In his study of the unique Eukratides gold medaillon at the Bibliothèque Nationale, the French academician emphatically argued against Cunningham's attempt, saying: "On a tant abusé de l'interprétation des monogrammes en ces derniers temps, que je m'attends à étonner plusieurs de mes lecteurs; mais comme mon scepticisme est fondé sur l'étude approfondie de la question des monogrammes en général, peut-être réussiraie-je à la faire partager à ceux qui n'auront pas de parti pris".<sup>16</sup>

A. von Sallet, too, cautioned against the idea, quoting Droysen's rejection of any attempt in this direction: "Jeder Versuch, in den Monogrammen Städtenamen zu suchen und aus den Monogrammen solche lesen und herstellen zu wollen, ist aber verwerflich und auch von Droysen mit vollem Recht zurückgewiesen worden".<sup>17</sup>

Percy Gardner was rather hesitant in his pronouncement. Under the caption "Monograms" in his British Museum Catalogue<sup>18</sup> he writes, "In the field of coins of all periods is a prodigious number of monograms and detached letters, sometimes Greek and sometimes of the Arian Pali class.

"If these could be read and interpreted, there can be no doubt that they would afford us most valuable information. But they present the greatest difficulties. Gen. Cunningham has well remarked, in regard to some of the Greek monograms, that their constant recurrence during successive reigns proves that they cannot denote monetary magistrates, but must stand for mints. There is reason in this; but when the writer goes further, and tries to identify the various mints

<sup>15</sup> *Num. Chron.*, Vol. VIII (1846), pp. 175-196.

<sup>16</sup> "L'Eucratidion", *Rev. Num.*, 1867, p. 392.

<sup>17</sup> *Zeit. f. Num.* (1879), pp. 199-200.

<sup>18</sup> *Coins of Greek and Scythic Kings of Bactria and India* (London 1886), P.LV.

which they respectively represent, we, like most students of these coins both in England and abroad, are unable to follow him. While therefore we must acknowledge the possibility that many of the Greek monograms may stand for the names of the mints, we must stop short of that point. Nor does there seem to be any probability that we shall advance further, until the find-spots of Bactrian and Indian coins are far more exactly recorded than they have hitherto been. The monograms and letters of the Pali alphabet do not recur in the same way as the Greek, but vary far more; and it does not seem probable that they stand for mints. They may stand for names of magistrates, for the date or number of the issue, or they may have been used for some other purpose which has not yet been guessed. Perhaps, in these circumstances it may seem superfluous to record them, as has been done in the Catalogue; *but it is impossible to be sure that valuable information will not some day be extracted from them*".

In chapter II of his essay, "Coins of the Indo-Scythians,"<sup>19</sup> Cunningham answered his critics by adducing many examples of well-known coins from the Greek, cistophoric, and Parthian series. These coins bear mint-names expressed by monograms or inscribed in abridged form as well as at full length, whose interpretation has been generally accepted. Appended to the text was a plate displaying some 65 Greek and Kharoṣṭhi monograms, a few detached letters and several heraldic symbols, extracted from coins of the Indo-Bactrians, Indo-Scythians, Indo-Parthians and Kushans. About one third of these monograms were read by Cunningham (some tentatively) as mint names in full or in part. Our Kharoṣṭhi Saṅgala monogram is conspicuously absent from the plate and must have been unknown to Cunningham.

Coins of Azes I and II are listed together, both in the *BMC* and *PMC*. In the former, all monograms and detached letters are scrupulously tabulated, a most valuable feature of this excellent work. However, none of the 117 *Æ*, 76 *Æ* and 9 semi-barbaric *Æ* contains our monogram. The same may be said of the 204 *Æ* and 133 *Æ*, expertly described in the latter catalogue. In the *IMC* the coins of

<sup>19</sup> "Monograms", *Num. Chron.* (1888), pp. 204-216 and pl. IX. Concerning other monograms Cunningham wrote "Some day, perhaps, a key may be found to unlock the mystery which lies hidden in these little knots of letters". *Ibid* p. 211.

Azes I and II are grouped separately. A thorough verification of the 44  $\mathcal{R}$  and 75  $\mathcal{Æ}$  representing the two reigns, likewise, revealed the lack of our monogram. Perusal of supplementary notes in various available publications produced similar results.

In view of the above mentioned evidence we may safely infer that the Kharoṣṭhi mint mark of our tetradrachms has never been published. The author readily agrees with the opinion of Dr. Whitehead that "the Greek (and for that matter the Kharoṣṭhi) monogram many denote the name of the local magistrate under whose authority the coin was struck, or sometimes (most certainly) the mint".

While Dr. Tarn's contention that "Cunningham's laborious effort to work out mint-cities from these numerous monograms was a complete failure (and that) no single monogram of any mint has been identified",<sup>20</sup> must be rejected as arbitrary.

EDMUND ZYGMAN

<sup>20</sup> W. W. Tarn, *op. cit.*, Appendix I, p. 437.

## ON THE RETARIFFING OF THE ROMAN DENARIUS

At some time during the latter half of the second century B.C. the value of the Roman denarius in terms of the as was reassessed. Although the reform is mentioned briefly in the authors we know only one indisputable fact: that the exchange between silver and bronze coin was altered, the denarius thereafter to be counted as 16 asses rather than 10.<sup>1</sup> The evidence which can be adduced to explain the reform is extremely thin. Mattingly and Sydenham have already presented such as there is, concluding that the measure was inflationary and that it was enacted for the benefit of the people by one of the Gracchi, Tiberius (Sydenham) or Gaius (Mattingly).<sup>2</sup> This paper is to suggest that that evidence, and particularly one neglected piece of it, is open to quite another and perhaps a sounder interpretation.

The new mode of exchange involved no physical change in the coins themselves. Mattingly suggested otherwise, maintaining that two alterations were made simultaneously: (1) a certain proportion of the denarii were plated on the initiative of Livius Drusus as a kind of debasement of the currency as a whole; (2) the bronze standard was reduced from sextantal to uncial, the as from two ounces to one. The result would be to alter the coinage ratio of bronze to silver from 140:1 (10 asses of two ounces each in exchange for 1 denarius at 1/84 pound) to 112:1 (16 asses of one ounce each for the denarius).<sup>3</sup> The recurring reduction in weight of the bronze coinage during the second century is well-known. But the evidence that we have denies both

<sup>1</sup> Pliny *N. H.* 33. 45; Festus p. 347 (Mueller). So the denarii themselves which read first X, then XIV, finally X.

<sup>2</sup> E. A. Sydenham and H. Mattingly, "The Retariffing of the Denarius at Sixteen Asses", in *NC* ser. 5, 14 (1934) 81-91.

<sup>3</sup> Mattingly suggests that in calculating the bronze exchange of a denarius, account would be taken of the debasement of the silver by one-eighth. The denarius would accordingly be worth 20 uncial asses (= 10 sextantal asses) minus one-eighth, 17½ uncial asses, for a ratio of 122½:1. The further reduction to 112:1 would be an attempt to facilitate the exchange of the denarius with the silver of Rhgium.

suggestions. (1) Mattingly argues that the Livius Drusus who as innovator *octavam partem aeris argento miscuit* (Pliny *N.H.* 33.46) was not the tribune of 91 B.C., but that of 122 B.C., and Mattingly would date the retariffing too to that year. But Pliny's statement does not make sense on the face of it, apart from any chronological considerations. No one, as far as we know, debased the silver coinage by reducing its fineness to .875, and we have always understood the phrase to mean what it does not say, that Livius ordained that 12½% of the silver struck at the mint should be plated. Lawrence has shown that plated silver was known at Rome long before either Drusus.<sup>4</sup> Anonymous denarii, denarii with symbols, and denarii with monograms occur plated, the latter by groups of moneyers. There is no evidence then that the retariffing of the denarius and the coinage of the plated denarius had any connection. (2) The weight of the as cannot have been lowered at this time. Previous to the reform the moneyers of the mid-second century were already striking uncial bronze. The earliest uncial *aes* struck at Rome is inextricably connected with the silver of identical monograms which is certainly dated, as a group, earlier than the reform.<sup>5</sup> Similarly after the change in tariff, uncial *aes* continued to be struck along with silver of traditional weight although the as as a denomination was suspended for some years.<sup>6</sup>

The retariffing of the denarius involved no change in the coinage. It must rather have produced a significant change in accounting. Now the unit of account in Rome has been the subject of some discussion. During the first century B.C. the sesterce was clearly the basis of bookkeeping, as the inscriptions and the literature show.<sup>7</sup> Public as well as private accounts seem universally to have been thus reckoned. Earlier however the case was different. The libral as when first introduced represented a unit. It was easily divisible itself, and its multiples were not represented in the coinage. (The as as a unit of measurement endured late into the Empire, representing a pound,<sup>8</sup>

<sup>4</sup> L. A. Lawrence, "On Roman Plated Coins", in *NC* ser. 5, 20 (1940) 192.

<sup>5</sup> Sydenham, *CRR*, pp. 35-9, 43-51.

<sup>6</sup> *Ibid.*, pp. 52-64, etc.

<sup>7</sup> *Cf.* *CIL* I<sup>2</sup> 592; 593; 594; etc.; and the works of Caesar and Cicero, *passim*.

<sup>8</sup> Volusius Maecianus, *Assis Distributio* 77 (in Hultsch, *Metro. Script. Reliquiae*).

a Roman foot,<sup>9</sup> or indeed any unit thought of as divisible into a equal number of parts which could be represented duodecimally.)<sup>10</sup> The as thus must once have been the unit of account; there is sufficient evidence to show that it was.<sup>11</sup> The introduction of silver coinage did not immediately cause any alteration in accounting as the inscriptions of the coins prove—X, V, IIS—and we have references to the as in later official calculations.<sup>12</sup> But the problem is, what was the unit of account at the time of the retariffing?—for neither this reform nor the shift in accounting from as to sesterce have been dated.

One well-known reference, rejected as meaningless by Sydenham,<sup>13</sup> proves the point. Pliny says that after the reform army pay continued to be reckoned in terms of 10 asses to the denarius. *Placuit denarium XVI assibus permutari . . . in militari tamen stipendio semper denarius pro X assibus datus est* (N. H. 33.45). The apparent difficulties of this idea—that the soldiers would be satisfied with 10 asses when 16 was the proper exchange, or that the denarius was exchanged against two differing amounts in bronze simultaneously—are repugnant to common sense. But the statement does make sense if we understand that the soldiers' pay was reckoned in asses but paid in denarii. Consequently, when the denarius came to be counted officially as 16 asses the soldiers would have suffered a loss in pay in terms of the silver tendered them of  $37\frac{1}{2}\%$ , 120 denarii a year<sup>14</sup> would have be-

<sup>9</sup> Frontinus, *De Aquaeductibus* 24, for uncia as inch. So CIL I<sup>2</sup> 698 (105 B.C.). Vol. Maec. 46 cites the XII Tables for sestertius as  $2\frac{1}{2}$  feet.

<sup>10</sup> An estate, for example, was an as, the shares of the heirs being the unciae: semis, half the estate; sextans, one-sixth; etc. (Vol. Maec. 44; Ulpian *Digest* 28. 5. 13 and 48).

<sup>11</sup> Pliny *N.H.* 33. 42–3. Dionysius Halicarnassus 9. 27. 3, 10. 49. 5. Plutarch, *Camillus* 13. 1 (= Livy 5. 32. 9). Livy *passim* (cf. Fügner's *Lexicon Livianum* s. v. as.) His latest reference is the account that 125 asses were distributed to each common soldier on the occasion of P. Cornelius Scipio's Gallic triumph in 191 B.C. (36. 40. 13). The Spoleto inscription (CIL I<sup>2</sup> 366), dated by C. Pietrangeli to not much later than 241 B.C. (*Notizie d. Scavi* 13 [1937] 28–31), imposes a fine of 300 asses for violation of a sacred precinct.

<sup>12</sup> Pace Regling, who seems to believe that the sesterce from its inception was always the unit of account (*R. E.* A–IV. 1880). Gellius (2. 24) mentions the *Lex Fannia* of 161 B.C. and the subsequent undatable *Lex Licinia*, both of which established maximum expenditures on holidays and work-days in terms of asses.

<sup>13</sup> NC p. 81, and CRR p. xxix.

<sup>14</sup> T. Frank, *Economic Survey* I, 222.



come 75. We will return to Pliny presently; for the moment it is sufficient proof that the official unit of account at the time of the retariffing was the as.

If contracts, debts, monetary obligations in general were measured in asses, who stood to benefit from the retariffing? Those who had silver would have gained considerably. Their denarii were now to be worth officially 60% more on the books, their debts were the more easily paid, their silver the more dearly bought. Could then the reform have been, as Mattingly and Sydenham surmise, a relief to the common man? "Although the retariffing of the denarius no doubt affected prices to some extent, more particularly of cheaper commodities, it is pretty certain, in the long run, to have proved advantageous to the poorer classes, whose business was mainly carried on with coppers. For, even if the purchasing power of the as was slightly less than it had been, the fact that for every denarius he could get 16 asses instead of 10 must have appealed to the working man who had little use for denarii but very much use for asses." In fact the working man stood to gain as Sydenham says only if he earned silver—did he?

We know little about the wages and prices of the last centuries of the Republic; the data seem to be mostly aberrant statistics astonishing enough to the ancients to be worth mentioning. Our picture of the Empire is clearer. Breglia, in a study of the composition of Pompeian coin finds and the details of commercial inscriptions and graffiti preserved in that unhappy city, has calculated that the ordinary, lower-class Pompeian citizen could have supported himself on the sum of 2 sesterces a day.<sup>15</sup> For that amount he could buy all his food and have enough left over to spend now for clothing, now for rent or entertainment or whatever. Presumably he earned little more. Now all the evidence, which need not be examined here, would lead us to expect a considerably higher price level in 79 A.D. than during the last half of the second century B.C. The century following the reform saw huge introductions of coinage to circulation, the lavish donations of one military commander after another, the beginnings of a considerable coinage in gold; while the inflationary stresses of the end of the Republic and the early Empire have already been

<sup>15</sup> L. Breglia, "Circolazione monetale a Pompei", in *Pompeiana*, pp. 50-3.

observed.<sup>16</sup> It seems hardly rash to conclude that the Roman of the time of the Gracchi might have bought for, say, one sesterce the goods for which his Pompeian descendant was to have to pay two. The Republican can hardly have paid more, and regardless of the precise figure the point is clear enough: a denarius represented a good deal of money to this Roman who carried on his trading in bronze.<sup>17</sup> The ordinary working man earned less than that a day, and Sydenham's example would have carried home his pay in silver only if he collected it by the week or month. Even more important, he would have carried home his pay in silver only if his employer chose to pay him in silver, since the wage would have been calculated in bronze asses. If the worker was actually paid in bronze he received no automatic increase in pay from the reform, while at the same time prices of small items which sold for bronze would have risen. If the worker was actually paid in bronze he had no reason to cheer the new exchange.

Those who had silver in quantity—the merchants dealing in luxury items or in commodities in bulk—in short, the *equites*—stood to gain from the reform. Those who had bronze—the lower classes, the small shop-keepers—could at best only break even. Why then was the reform instituted? Or rather, how could a reform have been instituted? Can we conceive simply a fiat announcing a new relationship between the two metals? So much is implied by Mattingly and Sydenham, that one of the Gracchi simply decreed the new state of affairs and that the purpose was to inflate the currency in circulation. The notorious Roman naïveté in matters economic makes such a suggestion not inconceivable; but the laws of economics render it impossible.

Previous to the reform the coinage ratio of (uncial) bronze and silver, 70:1 by weight, must have reflected fairly closely the ratio of

<sup>16</sup> Frank, *op. cit.* V, 22. Mattingly *BMCRE* pp. xlvi–vii.

<sup>17</sup> Frank, *op. cit.* I, 189, estimates a day's wage at  $\frac{1}{3}$  to  $\frac{1}{5}$  of a denarius, and 300 denarii a year as the upkeep for a man and wife. The figures are high if anything. For example, he calculates the price of wheat in the mid-second century B.C. as 3 sesterces a modius, although we know that to be a normal price only in Sicily in the time of Verres. Segré has already pointed out the dangers of analogizing from that figure to the prices of an earlier date (*Circolazione Monetaria e Prezzi nel Mondo Antico*, pp. 78–81).

their prices in the open market. 1) If bronze had been cheaper in the market—1 denarius bringing, say, 20 ounces of bronze—no merchant would have sold it. Instead of receiving one silver piece for his 20 ounces in bullion he would have had the metal struck into coin and received two silver pieces for his twenty ounces/asses in coin. 2) If bronze had been dearer in the market—1 denarius buying, say, 5 ounces of bullion bronze—no one with silver would have bought it. Instead, the bronze coinage, available at 10 ounces/asses for the denarius, would have been melted and bronze coin could not have remained in circulation. There surely were variations in the relative price of the metals on the market, and the expense involved in coining bullion or melting coin would prevent a movement of metal to or from the mint for trivial cause. But whatever the difference between the market ratio and the coinage ratio, the regular coinage in both metals before the reform proves that that difference cannot have been significant.

As a consequence the announcement of the reform ought to have thrown the metal market into confusion. The government had undertaken to pay out silver denarii only in exchange for 16 ounces of bronze, and thus to create this ratio in the settlement of private debts as well. But if a free market had established a certain ratio by the workings of supply and demand (and there is no evidence of government price control), an authoritative fiat could not have changed the situation. If the government insisted that it would pay out a denarius only if it could get 16 uncial asses in return, the denarius would have been worth more as coin (16 asses) than as bullion (10 asses). The immediate consequence would have been a flood of silver bullion to the mint. In fact there was none. The XVI denarius, unquestionably the earliest denarius of the new tariff, is struck by six moneyers and is common for only one, L. Julius.<sup>18</sup> The XVI denarii of the other five range from quite scarce to quite rare. It might be objected that a flood of hoarded *coined* silver into circulation would render new coinage unnecessary; but that silver, in denomination too large for common purchases, would have to be broken down by the bronze fractions of it. In fact the coinage of the as stops completely, while the pieces of smaller denomination struck

<sup>18</sup> Sydenham, *CRR*, pp. 51–2.

immediately after the reform are by no means excessively common. The mint appears actually to have slowed production following the reform; it is surely significant that of the three moneyers known to have struck both before and after the reform, the X denarii of two, C. Valerius Flaccus and A. Spurilius, are substantially more common than the XVI denarii, while the coins of the third, M. Aufidius Rusticus, are rare in any case.<sup>19</sup>

The only explanation can be that the retariffing of the denarius *involved no change at all in the market ratio of bronze and silver*. It did not create a new situation, it recognized a situation which already existed. The market ratio of bronze to silver was not 70:1, but already 112:1. The denarius, legally defined as equivalent to 10 asses, was already being traded in the market against 16. The proof lies in 1) the fact that the retariffing had no effect on the coinage ratio of bronze and silver, and 2) our quotation from Pliny. The soldiers' pay continued to be reckoned as 1 denarius to 10 asses. But why? If they had received  $6\frac{1}{4}$  denarii a month now instead of 10, they still would have received 100 asses. If the prices they paid rose, the rise must have been uneven, it was shared by everyone, and it had no legal significance. The reduction in pay from 10 denarii to  $6\frac{1}{4}$  would be only apparent, not real, in a sense no different from the reduction in the size of the five-pound note which still will buy five pounds of goods. Yet this curious accounting device was followed. The only explanation can be that the army would in fact have suffered a reduction in pay,  $6\frac{1}{4}$  new denarii would actually have counted for less than 10 old, and this is possible only if the soldiers had already been exchanging their denarii for 16 asses previous to the reform.

The retariffing of the denarius was an accession to a condition already obtaining in the market. It was not inflationary since it did not create new values nor increase the money in circulation. It was not advantageous to the lower classes; when the price of silver began to rise Sydenham's worker no longer received denarii, or received them at their real market value rather than their legal value. Nor was the reform particularly profitable for the commercial class, although it might appear to have been, if its silver had already been carried in

<sup>19</sup> Ibid., 53. H. C. Boren, in a forthcoming study of some Republican hoards, demonstrates that the XVI denarii are consistent in their scarcity.

the books at 16 asses to the denarius. Only if the realities of the market had somewhere not taken effect would a significant change in debt or payment have resulted. Only contractual agreements stated in terms of silver and bronze at the old exchange would have been altered; one example might be the army pay which was still being doled out at 1 denarius to every 10 asses, at a loss to the state. Again, those with silver would have been the group to benefit from a legal definition of the new ratio of bronze to silver.

So much for the significance of the reform; its date can only be approximated. Since the as was the unit of account at the time, the date of the change from as to sesterce in accounting would provide at least a *terminus ad* or *ante quem*. Now although this change seems to have been unnecessarily burdensome, it probably is to be understood as a shift from accounting in bronze to accounting in silver. Since the real value of silver was acknowledged in the reform, this would have been the very time for the Roman merchant to forsake his historic allegiance to bronze and to put his trust in silver. He could not earlier, when to calculate the silver value of the credits and debits of his accounts he would have had to divide his asses by an ever-fluctuating divisor, and when the division would have had no relation to state accounting. When the retariffing became official the reform in accounting would have been simple. Further, the retariffing alone was no guarantee that the fluctuating value of silver which had necessitated the reform would not continue to corrupt money values. But when accounts came to be kept in silver the price of bronze on the market was of much less moment. We may have here the reason for the quick disappearance of XVI from the denarii: once the denarius was calculated in terms of sesterces its bronze value was no longer significant. ✕ or X thereafter simply identified the coin without implying anything about its value.

At any rate, the earliest record of the sesterce in public accounting (as far as I am aware) is the notice in the *Lex Acilia Repentundarum* (CIL I<sup>2</sup> 583) of the fine to be imposed on jurors who refused to pass judgement—10,000 sesterces. The law is dated by Mommsen to 123 or 122 B.C. (CIL I p. 56–7). In succeeding years the *Lex Agraria* of 111 (CIL I<sup>2</sup> 585) and the contract from Puteoli for the construction of a wall in front of the temple of Serapis (CIL I<sup>2</sup> 698) deal in the

same coin. In any case, then, the retariffing cannot be later than Gaius Gracchus.<sup>20</sup> It is probably earlier; if Gaius spent as much money as is alleged, he will not have been the initiator of the scarce XVI denarii. The reform could have fallen in the 140's or 130's, the new denarii being thus assignable on the basis of style and position in the *Aufbau*.<sup>21</sup> We will not be able at present to achieve any better chronology from the sources. Since the reform was acquiescent rather than initiative it can be attributed to anyone at all.

The reasons for the rise in the price of silver during the second half of the second century B.C. are perhaps to be found in the lack of spectacular foreign conquests and the booty they entailed after 146 B.C. Between that time and the tribunate of Gaius Gracchus someone determined to reform the government's exchange of bronze and silver to coincide with the market exchange. When it was done, who did it, we cannot say. Why it was done may now be clearer.

THEODORE V. BUTTREY, JR.

<sup>20</sup> The assertion by Lenormant that the as was still the unit of account in 86 B.C. derives from a misunderstanding of his source (*Essai sur l'organisation politique et économique de la monnaie dans l'Antiquité*, p. 137). In that year the consul suffect Valerius Flaccus (*legem tulit qua creditoribus quadrantem solvi iusserat* (Vell. Pat. 2. 23. 2). Quadrans is simply "25%", not the coin. So Burns, wrongly (*Money and Monetary Policy in Early Times*, p. 403).

<sup>21</sup> Although K. Pink, *The Triumviri Monetales*, p. 23, assigns them as late as possible, to Gaius Gracchus. The evidence is discussed in some detail by Boren, *op. cit.*, who concludes that the retariffing probably fell between the two Gracchan tribunes.



## DIOCLETIAN AS 'AETERNUS AUGUSTUS'

(SEE PLATE XV, 11-12)

In *Revue Numismatique* 1953, p. 141, Mlle Gabrielle Fabre published the brief description of a singularly interesting follis which, struck at Lugdunum in the name of Diocletian, was included in the Montbouy (Loiret) hoard.<sup>1</sup> By means of casts kindly supplied by the Cabinet des Médailles at Paris I have been able to examine the coin more closely. Its fuller details are as follows:

*Obv.* D N DIOCLETIANO AETER AVG Bust r., laur., in imperial mantle, r. holding branch, l. mappa.

*Rev.* GENIO—POP ROM· Genius stg. l., wearing modius and himation, r. holding patera, l. cornucopiae: in field to l., altar:<sup>2</sup> in ex., PLC. PLATE XV, 11  
6.70 gm.

Mlle Fabre called attention to the fact that Cohen<sup>3</sup> listed, without mint-mark, a not dissimilar coin taken from Banduri<sup>4</sup> (*Obv.* D. N. DIOCLETIANO AETER. AVG., Buste lauré et drapé à droite, *Rev.* GENIO POP. ROM., Génie coiffé du modius, à demi-nu, debout à gauche, tenant une patère et une corne d'abondance), of which however neither Voetter nor Maurice took account. This is presumably the 'coin' which had been listed, even before Cohen, by Akerman.<sup>5</sup>

<sup>1</sup> Gabrielle Fabre—Monique Mainjonet, 'Les Trésors Monétaires de Montbouy (Loiret)', in *Exposition Internationale de Numismatique, Monnaie de Paris, Juillet MDCCCCLIII*, pp. 42-4: to be studied by the same authors in *Gallia*, 1956, Supplement, forthcoming.

<sup>2</sup> Better perhaps described thus than as an integral part of the composition, which is in any case clumsy in arrangement and detail.

<sup>3</sup> Diocletian, no. 84.

<sup>4</sup> *Numismata Imperatorum Romanorum &c* II (Paris, 1718), p. 16, with n. 3 thereto. Banduri, who incidentally noted the mint-mark as PLC, was aware both of the great rarity of this obverse variant and also of its historical interest.

<sup>5</sup> *A Descriptive Catalogue of Rare and Unedited Roman Coins* II (London, 1834), p. 135: I owe this reference to Mr. K. A. Jacob.



It is now possible, by the kindness of Mr. K. A. Jacob of Cambridge, to describe another and in some ways still more interesting example of a Lyons follis showing Diocletian as 'Aeternus Augustus.' This coin, which is in Mr. Jacob's own collection, is as follows:

*Obv.* As the Montbouy coin, but from a different die.

*Rev.* SECVRIT PE—RP—ET DD NN Securitas stg. l., r. hand on head, l. holding drapery and transverse sceptre and leaning on short column: in ex., PLC. PLATE XV, 12  
7.10 gm.

We thus have evidence for a small group of Lyons coinage of unusual significance. It consisted at any rate of two obverse and two reverse dies. Issued after the abdication of Diocletian on 1 May 305 it belongs in fact to a period in which Maximian (returned to power), Galerius, Constantine and (later) Maxentius were coining as Augusti, with Maximinus as Caesar.<sup>6</sup> This period, for reasons ably demonstrated by P. Strauss, cannot have begun until after 25 July 307.<sup>7</sup> It was characterized at Lyons by a highly coloured range of follis-types<sup>8</sup> in which (besides *Genio Pop Rom*) *Concordia Felix Dd Nn*, *Concordia Perpet Dd Nn*, *Constantino P Aug B R P Nat*, *Principi Iuvent B R P Nat*, *Securit Perpet Dd Nn*, *Temporum Felicitas* and *Virt Perp Constantini Aug* also appeared, together with types of Mars Pater as Conservator, Propugnator and Victor. This range contrasts with the quieter tone employed in the same period at Treveri.<sup>9</sup>

Maximian's emergence from retirement late in 306 was accompanied at first by a continuation, at Lyons, of the DN MAXIMIANO P F S AVG titulature. Coins of the same period, and with analogous titulature, gave Diocletian the QVIES AVGVSTORVM reverse,<sup>10</sup> first successor to PROVIDENTIA DEORVM QVIES AVGG; and both Diocletian and Maximian used the QVIES AVGG reverse.<sup>11</sup> But

<sup>6</sup> Cf. O. Voetter, *Num. Zeitschr.* 1917, plates XXIV–XXV.

<sup>7</sup> *Rev. Num.* 1954, p. 27 f., where it is convincingly shown that Constantine's elevation to the rank of Augustus cannot be dated until later: cf. also E. A. Sydenham, *Num. Chron.* 1936, pp. 141 ff.

<sup>8</sup> Cf. Voetter, loc. cit.

<sup>9</sup> Cf. Strauss in *Rev. Num.* 1954, pp. 32–4.

<sup>10</sup> Cohen 430—a scarce issue (Oxford).

<sup>11</sup> Cohen, Diocletian, no. 428 (Oxford) and Maximian, no. — (Voetter–Gerin, no. 98): both scarce.

Maximian's obverses were paired also with the GENIO POPVLI ROMANI reverse—the intended equation was obvious<sup>12</sup>—and later with GENIO POP ROM. When Constantine became Augustus late in 307<sup>13</sup> Maximian abandoned his status as *Senior Augustus* and reverted to that of *Augustus*.<sup>14</sup> It is evident that, as soon as that reversion took place, the Lyons mint made a special effort in the period between late 307 and Nov. 308<sup>15</sup> (when the Carnuntum conference brought Maximian's adventure to an end) to keep Diocletian before the public's eye as the grand architect, still watchful, of the Tetrarchy. No 'aeternus' obverses are known for Diocletian other than these. And the pairing of the 'aeternus' obverses of Diocletian with GENIO POP ROM and SECVRIT PERPET DD NN reverses is not the simple and aimless result of careless muling: in the whole PLC issue of which these coins are an element there is no type at all—such as *Quies*—which would be wholly suitable for Diocletian alone. The 'aeternus' obverses were therefore specially made for the coinage in Diocletian's name; and they were, equally specially, combined with the *Genio* and *Securitas* reverses. As such, the coins were clearly designed to serve a definite purpose; and that purpose is presumably to be seen in the *aeternitas* predicated of Diocletian as Augustus. One might suppose that, with Maximian stimulated afresh to imperial rule by Maxentius (controlling the mints of Aquileia and Ticinum) in Italy, and with Galerius threatening invasion of Italy, the mint of Lyons—which barely recognized Maxentius and was controlled by Constantine—was acutely conscious of its position near to the likely area of hostilities. In these circumstances Lyons—unlike the remoter and safer Treveri—might well take care to advertise the supreme moral authority of Diocletian.

Although *aeternitas* was a quality which had long since been attributed to emperors on coinage<sup>16</sup> it was, as has been noted,<sup>17</sup> a new

<sup>12</sup> See my comment in *Essays in Roman Coinage presented to Harold Mattingly*, pp. 177 ff.

<sup>13</sup> See above, n. 7.

<sup>14</sup> See Voetter, *Num. Zeitschr.* 1917, pl. XXIV.

<sup>15</sup> Cf. Strauss, op. cit., p. 39 f. with p. 68, n. 55, and Sydenham, op. cit., p. 159 f.

<sup>16</sup> Cf. *R.I.C.*, indexes: from the end of the second century A.D. the concept of *aeternitas imperii* begins to give way to that of *aeternitas Augusti*, at first mainly in eastern mints, and subsequently further west.

<sup>17</sup> Cf. *Rev. Num.* 1953, p. 141.

element in the inscriptions of Diocletian and Maximian.<sup>18</sup> And *perpetuitas* was also a tetrarchic quality.<sup>19</sup> The distinction between the two is simple and clear.<sup>20</sup> *Perpetuitas* was the quality of what remained unchanged, emperor by emperor, colleague by colleague, reign by reign; and thus the *securitas* of the Tetrarchy could remain unbroken even though the partnership varied. But *aeternitas* was supramundane—the unbreakable quality of what could never end. Constantius by now was *divus*, and as such imperishable. Diocletian, however, the founder of the whole semi-divine system,<sup>21</sup> still lived. His influence and authority were so great that, living or dead, he would be felt as an eternal power, the source of harmony and happiness in endless future ages just as on the Arch of Salonika<sup>22</sup> the eternal harmony of the universe was the outer setting for the central scene. It is true that Diocletian had abdicated; and “a god does not abdicate”.<sup>23</sup> But a divine being, drawn from the cycle of eternity to inaugurate a new earthly cosmos, could return to the eternity from which he came. In that sense Diocletian was *aeternus*, and in that sense his *aeternitas* was of deep significance if *securitas* was to remain *perpetua* for much longer.

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<sup>18</sup> See *Dizionario Epigrafico* II, p. 1881 and Dessau, *I.L.S.* nos. 644, 5900.

<sup>19</sup> *Dizionario Epigrafico* II, p. 1880 f.; Dessau, *I.L.S.* nos. 673, 5900.

<sup>20</sup> Cf. my remarks in *Studies presented to D. M. Robinson*, p. 241.

<sup>21</sup> On which see Seston, *Dioclétien et la Tétrarchie*, pp. 194 ff.

<sup>22</sup> Seston, *op. cit.*, pp. 250 ff.

<sup>23</sup> *Id.*, p. 249.

## COINS OF THE ROMAN WORLD:

### Selected Accessions, 1953 and Other Noteworthy Pieces\*

(SEE PLATES XVI–XIX)

We have chosen to present here twenty-three items from our 1953 accessions which seem worthy of illustration and more than passing comment, among them pieces of unusual character and condition. By unusual character we mean coins that are variants of pieces described in the standard catalogues, rare and precious pieces, and numismatic items not actually coins, such as the terracotta mold and contorniate at the end of the list. This selection ranges in time from the second century A.D. to the seventh century A.D., material from the Roman Republic and the early Empire being unrepresented. We have kept the pieces of one Emperor together no matter what the mint, so that the issues of the central government and local issues appear consecutively in their proper periods. Besides coinage of the imperial mints of Rome, Sirmium, Constantinople, Siscia, Cyzicus, Antioch and Alexandria, issues of local mints at cities in Moesia Inferior, Thrace, Macedonia, Bithynia, and Mysia and Caria in the Province of Asia are included. Our plates can then be said to show a group of representative coins and related items from the great variety struck under the Roman Empire during the period of its greatest production of coinage.

Although this is a report on the accessions of 1953, we have included on PLATE XVIII, 16b, a miliarensis of Constantius II from the Gautier Collection (acquired through the generosity of an anonymous donor in 1948) which, because of its similar type and its apparent rarity, points up the numismatic and historical significance of the silver piece of Constantine Caesar PLATE XVIII, 16.

\* This report was completed early in 1954. A few obvious changes and additions have been made to bring it up to date.

Brief descriptions of reverse types, and reverse legends only are given in the catalogue. This is not to say that the importance of the obverse, its portrait and legend, are not fully appreciated, since no coin can be studied properly in its time without attention to details which might be of value for determining the date of issue or for disclosing new historical, artistic, or purely numismatic knowledge. We assume that in few cases our photographs will fail to provide the facts about the obverse. Letters describing obverses refer to the British Museum catalogue classifications. The mint of Rome is assumed to be the striking mint unless another mint is specified.

1. TRAJAN. Æ. Dupondius. Trajan laureate and in military dress striding r. between two trophies. SENATVS POPVLVSQVE ROMANVS. S C in ex. *BMCRE* 1054 (116–17 A.D.) and *Introd.* p. cv.↓ 13.71 Purchase.

Struck toward the end of the reign as the title *Parthicus* in the obv. legend shows. It is to be assumed that the trophies between which the Emperor appears were erected or planned for two of Trajan's eastern victories. For the preparations at Rome to honor him, which he did not live to receive, see Dio 68, 29, 2.

2. TRAJAN. Æ. Mysia, Pergamum. Tetrastyle temple, within which male deity (Divus Augustus?); around rim, ΠΕΡΓΑ[ΜΗ]ΝΩΝ; below, monogram similar to the monogram on an Augustan Æ of the same mint and type (*SNG, Copenhagen*, 462). A different monogram appears on *SNG, Copenhagen* 473, another Æ of Trajan. Our piece comes from Pergamum itself and is not in the standard catalogues.

↑ 3.39

Gift, R. S. Bailey.

3. TRAJAN. Æ. Struck at Alexandria (as Dattari and Milne have shown; cf. L. C. West and A. C. Johnson, *Currency in Roman and Byzantine Egypt*, Princeton, 1944, pp. 23–4) for the nome of *Mene-laites*. Harpocrates with body terminating in form of crocodile. on garlanded base. To l., Π; to r., E (yr. 15). ↑ 24.61 Purchase.

Similar to Dattari, *Numi Augg. Alexandrini* (Cairo, 1901), 6312 (not illustrated), apparently with slight differences in legend arrange-

ment. T H C to the r. of Harpocrates are the only clear letters of the ethnic, but that the nome honored is Menelaïtes is certain from comparison with other specimens and from the type of Harpocrates peculiar to the coins honoring the Menelaïte nome. The type, for whose exceptional nature among the nome coinages see J. G. Milne, "The Nome Coins of Egypt," *Ancient Egypt*, 1932, pp. 73–8, occurs in Milne's catalogue of the Alexandrian series in the Ashmolean Museum only without ethnic (no. 658 seems to be the closest to our piece in other respects); it is mentioned by Vogt, *Die Alexandrini-schen Münzen*, p. 60, in a footnote and by Theodor Hopfner, "Der Tierkult der alten Aegypten nach den griechisch-römischen Berichten und den wichtigeren Denkmälern," *Denkschr. Kais. Akad. Wiss. in Wien, Phil.-Hist. Klasse* 57 (1913), on p. 179. An enlarged photograph of a coin of Antonius Pius (yr. 8) showing the type, but on ground-line rather than base, has just appeared in an article on the nome coins by Jacques Schwartz, "Les Monnaies de Nomes en Égypte Romaine," which has come to us as an abstract from the *Bull. de la société française d'Égyptologie*, Feb. 1954 (with a bibliography of eleven pertinent works, not however, including Dattari's articles). Two pieces, both of the year 15 (IE) are in the magnificent collection of Alexandrian pieces assembled by E. T. Newell, but they are of ordinary condition, while this new piece is of exceptionally fine quality.

Though attempts have long been made to reveal the nome issues as commemorative (see Dattari's article in *Journ. Int. d'Arch. Num.* 7 1904, pp. 177–202 for summary and bibliography to date), it may come to some as a surprise to learn that a recent discussion of the nome coinage can be found in M. Grant's *Roman Anniversary Issues* (pp. 176–8). Starting with a rather broad interpretation of a suggestion in Head's *Historia Numorum*, 2, p. 864, Grant makes a bold stand for the nome coins as anniversary issues connected with the commemoration of certain imperial events. This is contrary to the views of Dattari, Milne, and now of Jacques Schwartz, who flatly says that there is nothing known of the reigns of the emperors under whom the coinage was struck or of the history of the "province" which can explain the nome coinage; it is not clear that he has seen Grant's appendix, but the first page of his article might well be used

as a means of checking on the strict accuracy of Grant's dates, which in several cases appear to need revision.

By far the best general article on these coins, and the most understanding, it seems to me, has been provided by Milne, *Ancient Egypt*, 1932, pp. 73-8, where these issues are treated chiefly from a knowledge of the whole Alexandrian series, i.e., then, primarily from the point of view of mint history and practice under the various Roman emperors, though we must be warned against the practice used here of giving but one A.D. year for the *Alexandrian* imperial year which generally ran from August 29 and ended on August 28, no matter how short a time before this date a new reign began. But Milne's broad approach covers types, varying quality of workmanship, possible relation to other coinages, metrology, and finds, and he has therefore worked largely with precise, tangible criteria rather than from theory. In this article our type, called "crocodile-bodied Harpocrates" ("Harpocrates of Canopus" in the Ashmolean catalogue, p. 19), receives special attention as not being a run-of-the-mill type among the nome coins (pp. 75, 76), and under Hadrian, it was an exceptional sort of type on the small bronze (Milne, p. 77), where the usual type on these pieces was the symbol held by the god on the larger bronzes. Professor Herbert C. Youtie informs me that the closest thing to the type known to him is the young Horus standing on crocodiles, "but this seems to reflect a different conception. The Menelaite Harpocrates appears to be a true fusion of the child Horus with the great crocodile-god Suchus, while the other, which is the type of the cippi of Horus, shows him triumphant over the hostile crocodile, a form once taken by Set according to Plutarch." The actual connection of the types with the nomes associated with them appears to be something of a mystery.

4. HADRIAN.  $\mathcal{A}$ . Denarius. Salus sacrificing. SALV SAVG. BMCRE 725 (134-138 A.D.). Obv.  $d$  (not illustrated for this type in BMC).

✓ 3.43 Gift, P. Tinchant.

5. HADRIAN.  $\mathcal{A}$ . Sestertius. Scene showing Hadrian's fourth *Liberalitas*. COS III. [S] C low down; in ex., LIBERALITAS / AVG IIII Strack 594 (not illus.); var. BMCRE. 1315 (119-138 A.D.). Our piece has BMC. obv.  $d$  (laur., dr. on l. shoulder) and a different

reverse, as Cohen 933. The note on *BMC*. 1315 points out the error in the number of the *Liberality* in Cohen but fails to state that the reverse in Cohen has a fourth figure in the scene, a departing recipient of the liberality. Our illustration here is then one which cannot be seen in Strack, *BMC*. or Cohen.

↓ 28.07 Purchase.

One of the several *liberalities* of Hadrian recorded on coins by number. There were apparently seven, the last of which is also recorded by number. Under Hadrian the coinage first featured *liberalitas* types in place of *congiarium* types; for the constitutional significance of the change, giving official status to a previously personal institution, see Pauly-Wissowa, *Realencyclopaedie*, s. v. *Liberalitas*, cols. 87–88, where there is a list of the total number of liberalities of each emperor from Hadrian to Carinus.

6. HADRIAN. Æ. As. Standing figure of Janus, facing. COS III. S C. *BMCRE*. 1335 (119–138 A.D.). Cohen, 281.

✓ 10.92 Purchase.

Note that we have here a Janus Quadrifrons, while the Janus on the corresponding *aureus* of Hadrian has faces turned to l. and r. only—an interesting difference in die-engraving which may be of no significance. It might be taken, however, to support Mattingly's suggestion (*Introd.* p. cxxxii) that the type goes with a "new age" idea implicit in the impetus given to the cult of Roma from 121, rather than with the settlement of difficulties with the Parthians in 123 (Strack, p. 80, after L. Laffranchi, *Num. Zeit.* 59, 1926, "Die Daten des Kaisers Hadrian," p. 116, referring to the aureus along with the bronze Æ celebrating PAX); for the temple of Janus, to which reference would be implied in the case of a peace settlement, was not a *quadrifrons* but a "two-faced" temple. The difference in the types on the gold and bronze seems to suggest that the reference is to Janus as god of beginnings whatever form he takes rather than to the uses of a temple in his name. These coins, particularly the aurei, seem to be rare, and consequently the difference noted between gold and bronze types needs to be more fully substantiated before we can try to decide whether any significance is to be attached to the distinction made by the engravers.



7. ANTONINUS PIUS. Æ. Bithynia, Cretia-Flaviopolis. Tetrastyle temple. Below and around rim, ethnic: ΦΛΑ [ΟΒΙΟΠΟ] ΛΙΤΩΝ; in ex., ΚΡΗΤΙΕΩΝ. From Pergamum.

↓ 12.34 Gift R. S. Bailey.

We have little certain information about this town (cf. D. Magie, *Roman Rule in Asia Minor*, Princeton, 1950, pp. 570, 1083, 1429). Although its Roman name was evidently derived from the Flavian emperors in the first century A.D., its coinage seems to have begun under Antoninus Pius. This piece does not seem to be in any of the major catalogues (the only similarity to the larger coin in *RGA*. i, pt. 2, p. 334, no. 4, is the fact that both have a tetrastyle temple; the temple of the piece in *RGA*. is flanked by statues of deer, the ethnic is differently arranged on the coin, the obv. is not illustrated). Most of the coinage reported seems to be Severan. Up to this time the Society had no piece of Antoninus Pius.

8. COMMODUS. Æ. Caria, Stratonicea. Victory facing, head l., and holding wreath in upraised r. AVKOMM ANTEPAVΓ

↑ 21.74 Gift, Anonymous donor.

Considering the legibility of the fine though very worn letters of the ethnic on the reverse, the ragged condition of the imperial name on the obverse is discouraging. The portrait, however, with its long face, Roman nose, and wide eye, can hardly be meant for anyone but Commodus in spite of its third-century "look". This is an interesting coin, for we generally think of the very large pieces of Stratoniceia as Severan, and Severan only. It appears that the coinage was on the way to becoming larger at the time of Antoninus Pius (*BMC*. Caria, p. 154, no. 50 suggests this) and had increased further in size under M. Aurelius, for *SNG*, Copenhagen, 501 of young Commodus, is significantly close in size to the first piece of Septimius Severus following it. Our piece confirms this tendency to the striking of larger pieces as early as the Antonines, and shows that the Severi were not actually the innovators of the large size for which their Stratoniceian issues are so conspicuous. These huge Æ coins seem not to have been continued after the reign of Severus, if one can judge from later issues, which are scarce, like pre-Severan imperial issues.

Although magistrates were mentioned before Commodus and regularly under the Severi, our piece bears on its reverse the simple ethnic. Severan Æ continues the use of the Victory reverse alongside the obviously local deities. The Victory, as well as the deities on the reverses of this mint, is in origin a local rather than an imperial type, for she goes back to the pre-imperial coinage of the city.

9. SEPTIMIUS SEVERUS. Æ. Moesia Inferior, Nicopolis ad Istrum, under the governor Aurelius Gallus (—202/203+). Mercury holding purse and caduceus.  $\text{V}\Pi\text{A}\text{V}\text{P}\text{Γ}\text{A}\text{Λ}\text{Λ}\text{O}\text{V}$   $\text{N}\text{I}\text{K}\text{O}\text{Π}\text{O}\text{Λ}\text{I}\text{T}\text{Ω}\text{N}$ ; in ex.,  $\text{Π}\text{Ρ}\text{O}\text{C}\text{I}$ . Pick, 1302.

↑ 11.56 Purchase.

Of the Society's sixty coins from this mint only two others of this size (Tyche, under the legate Gentianus; eagle on globe, struck under Aurelius Gallus) are issues of Septimius Severus. The mention of the governor shows that Nicopolis (to be distinguished from Nicopolis ad Mestum in Thrace) was part of Moesia under the Severi (for discussion see Pick, I, I, pp. 67 and 328 ff.). Gallus is the fourth of the five consular legates of Moesia Inferior mentioned on the coins of the family of Septimius Severus during his reign. Because he struck Nicopolitan coins of Plautilla and at the same time beardless heads of Caracalla, Pick gave as Gallus' period 202/203 A.D. (Num. Zeit. 23, 1891, p. 37) with allowance for a longer regime (Plautilla was disgraced in 205, Pauly-Wissowa, s.v. *Fulvius* col. 288) since Gallus' coinage was plentiful.

10. JULIA DOMNA. Æ. Thrace, Pautalia. Goddess with attributes of Aequitas and Nemesis.  $\text{Π}\text{A}\text{V}\text{T}\text{A}$   $\text{Λ}\text{I}\text{Ω}\text{T}\text{Ω}\text{N}$  Ruzicka, *Die Münzen von Pautalia* (Sofia, 1933) 478; cf. "Nemesis-Aequitas," 476 and p. 34.

↑ 6.61 Purchase.

Of the 21 coins from this mint in our collections, several are Severan, but there is none of Domna.

This coin of Julia Domna was struck during the reign of her husband (as vs. the sole reign of Caracalla), as the coiffeur shows. The portrait is not, however, one of the earliest of the reign. Some coins of Pautalia (our piece is not one of them) bear the names of the governors of the province, but only one (Sicinnius Clarus, 202–203 A.D.)

seems to have struck coins for Domna, while the names of four appear on the coins of Septimius Severus, two on coins of Caracalla. No governor's name appears on coins of Geta. Pautalia at this time was in the province of Thrace (see R., p. 5); later, under Aurelian, the city was transferred to Dacia.

11. CARACALLA. Æ. Sestertius. Emperor on horseback, spearing foe. Var. *BMCRE*. p. 480, 260 (214 A.D.). C. 270 (see BMC. note).

↑ 20.32 Gift, P. Tinchant.

Our obverse legend has AVR, not AVREL, in Caracalla's name, MAVRANTONINVSPIVSFELIXAVG. The reverse legend PM TR P XVII IMP III COS IIII PP dates the coin to 214 A.D., the year of C.'s campaigns in Thrace. Although "Felix" had occasionally occurred in inscriptions earlier in the reign (Pauly-Wissowa, *Realencyclopädie*, s. v. *Aurelius* no. 46, col. 2437), it first appears on Caracalla's coins in TR P XVI. It replaces BRIT and is in turn replaced by GERM in TR.P. XVII, having then been in use during part of TR P XVI and XVII (therefore somewhere after the beginning of 213 and before the end of 214 A.D. It is therefore possible to date a coin with this title in the obverse legend fairly closely even when the reverse bears no date. The coins with "PIVS FELIX AVG" seem to be rare.

12. GETA CAESAR. Æ. Macedonia, Dium. Athena st. l. and Zeus st. r. Around rim, from top, COL IVL D I EI (sic) NSIS.

↓ 6.75 Purchase.

This coin occupies a place in the coinage of Dium just where some ten catalogues I have consulted (excepting Mionnet, *Suppl.* III, which has a long list of coins) have a lacuna, strangely enough, at the time of Septimius Severus. And although Mionnet listed coins for Geta as well as for his father and brother, I have found nowhere in the catalogues consulted a reverse combining in a single type the city's two most numismatically celebrated gods, Athena and Zeus. Here Athena appears as she does on other coins of the colony, with long sceptre and patera, and there seems to be a serpent rising toward the patera. Correspondingly at the feet of Zeus, who also holds long sceptre and patera, is an eagle with head turned towards him. The heads of the gods are turned one toward the other, forming a type

as pleasing as it appears to be odd. Our own Newell Collection boasts ten pieces of the mint, an impressive representation when one compares the number of pieces and the period covered with the lists in the published collections.

The imperial coins of Dium regularly have the ethnic COL IVL DIENSIS. In *FITA*. Grant (pp. 272-73) discussed the foundation of the Roman colony of Dium and attributed it to Brutus (p. 273). This attribution is based on foundation coinage which omits the usual "IVL" from the ethnic and has a reverse interpreted to express a civilian ideal of colonial foundation as against the military character of Caesar's *deductiones*. In any case, the colony soon became "Julian" and retained the ethnic with this addition.

Most of the ten other ANS pieces of this mint are Julio-Claudian. Caracalla, Severus Alexander, Gallienus, and Salonina are each represented by one piece.

13. ELAGABALUS. AV. Aureus. E. seated l. on curule chair, globe in r., long scepter in l. PMTRPIIIICOSIIIPP. Cf. BMC. p. 557, no. 181 (star high in l. f., short sceptre held down). 220 A.D. Cohen, 166.

↑ 6.4 Gift, E. Gordon.

This is the only piece I have seen of this variety; star in center, l., sceptre held up. Other reverses have star high, sceptre held high, star low, sceptre low.

A truly consular type, since E. entered upon his third consulship in 220.

14. ELAGABALUS. Æ. Macedonia, Thessalonica. Victory, head l., holding Cabirus on r., palm in l. ΘΕCCAΛΟ Ν ΙΚΕΩΝ. Cf. Grose, *Frem. Coll.* 3794 (not. illus. and descr. uncert.) and SNG, Copenhagen, 418 (poor cond., prob. no cuirass).

↓ 6.15 Purchase.

The Newell Collection has a great abundance of the imperial coins of Thessalonica, close to one hundred. Our new piece adds a variety of obverse (emp. cuirassed) and a specimen in better condition than the single piece of Elagabalus in the group. Though Victory as a type goes back to Antony and Octavian and though Cabirus as a type is earlier than the Severi, the Victory bearing Cabirus on her right hand

6•

instead of holding wreath seems to have originated in the reign of Septimius Severus. This appears clear from the lack of the type in earlier reigns as well as from the existence of the more usual victory type alongside it (earlier?) in the reign of S. S. An interesting type reported by Gaebler (*Antik. Münz. Nordgriech.* III, 2, p. 127, 55, Pl. 24. 6 Maximinus) has Victory and City-Goddess together on the reverse, the latter holding the Cabirus. It seems evident that Victory symbolized the imperial status of Thessalonica, while the Cabirus (who is sometimes shown in his temple) was her local symbol under the Empire.

15. GALERIUS CAESAR. Æ. Follis. Siscia. Moneta ("Aequitas,"

Voetter, Gerin Coll., p. 286, no. 17.).

\*|B  
SIS

↑ 9.76 Purchase.

By calling this type "Aequitas" rather than "Moneta" Voetter obscured the point of the legend SACRA MONET AVGG ET CAESS NOSTR. Similar coins celebrating the Mint (or mints) of the Tetrarchy (previously Diocletian seems not to have used a Moneta type) were evidently struck only at western mints: Rome, Ticinum, Aquileia, Augusta Treverorum, and Siscia. Our reverse legend is the second of three used at Siscia, its order being determined by the sequence of mint marks, though it is the *first* "Moneta" legend used by Galerius, and our mint mark is early (second in Voetter's list of five) in the order of marks used with the legend.

The reverse legends for the Moneta type are similar in general, but may vary in detail from mint to mint. Siscia appears to be the only mint omitting SACRA from any of her legends as she does in Voetter's no. 1 (MONETA AVGG ET CAESS NN). At Rome the MONETA reverse is distinguished by several features which show the capital to be conscious of her status of *prima inter pares* among the mints: VRB appears after MONET or MON in all her legends, and the thunderbolt and club of the Emperors is used, presumably as a substitute for R(oma) in the earliest mintmarks of the type. The type and legend proclaim the authority of the Jovian and Herculean Augusti and Caesars (Diocletian, Maximian, Constantius Chlorus, and Galerius) over the imperial Mint.

16. CONSTANTINE CAESAR.  $\mathcal{A}$ . Miliarensis. Cyzicus. Constantine I and three sons beneath arched structure. FELICITAS ROMANORVM around rim. In ex., SMK.

↗ 4.2 Purchase.

Cf. Maurice III, p. 130, for a smaller piece in Vienna ("unique") but of similar weight, and illustrated in Gnechi, *I Medaglioni Romani* I, p. 60 (Pl. 29, 13), where the weight is given as 4 grams. Maurice, II, p. 600, and J. M. C. Toynbee, *Roman Medallions*, p. 28, point out that numismatic cabinets and Gnechi have mistakenly included Constantinian miliarensi among medallions. Our piece is evidently a miliarensis to judge by its weight, but its size is unusually large for the weight (4.2 grams). After a study of the  $\mathcal{A}$  of Cyzicus struck under the Tetrarchy and Constantine, I have concluded that the top leaves of the laurel wreath, the nose, and the thongs of the cuirass, stylistic features which seemed troublesome, are above suspicion (cf. P. V. Hill and J. P. C. Kent on the Cyzicene obv. ( $\mathcal{A}$ ) in Spink's *Num. Circ.* 64, no. 9, Sept. 1956, p. 367).

This  $\mathcal{A}$  belongs to a group of silver types the interpretation of which seems to me dependent on the fact that we cannot see in the four figures on the reverse the four sons of Constantine; the group must include the Emperor himself since four of his sons were never contemporaneously Caesars. Consequently, similar silver where but two or three figures appear in the group can then be interpreted in consistency with the acceptance of the Emperor as a key figure in the type (cf. Julia Domna's portrait along with those of Caracalla and Geta on Severus' FELICITAS SAECVLI aureus). We need to note here, then, that Gnechi's descriptions do not follow any such pattern of consistency.

The type announces the new supremacy of Constantine and his family in the East after the defeat of Licinius toward the end of 324 A.D. Constantine I here is presenting himself and his sons to the East as its new Augustus and Caesars. The Emperor and his sons Crispus, Constantine Junior, and Constantius stand in military dress beneath an arched structure (a temple of Felicitas Publica, according to Maurice, III, p. 71, an identification which different legends with the type would seem to deny; for shrines of Felicitas in Rome see Platner-Ashby, *Top. Dic. of Anc. Rome*, Oxford, 1929, s. v., *Felicitas*

and *Genius P. R.*). Constantine, Crispus, and Constantine Junior are looking to the left and upward (cf. certain Constantinian obverses for the tilt of the head), while little Constantius, who has probably just been made Caesar (Nov. 324), turns his head and looks back at them.

Similar, if slightly smaller, pieces were struck at our mint (Cyzicus) for Constantius II as Caesar (Gneecchi, *Med. Rom.* no. 30, Pl. 32, 3) and at Nicomedia for Constantine himself (Maurice, p. 72, no illus.; Gneecchi, no. 16, Pl. 29, 2) and Crispus (Maurice, p. 72, Pl. 3, 13). These pieces can have been struck only between November 324 when Constantius became Caesar and the late summer of 326 when Crispus died, but the scene with its legend FELICITAS ROMANORVM is so clearly a dynastic advertisement of the new Constantinian control of the East and the newly acquired Constantinian mints (are there any corresponding pieces from western mints other than Rome: SMR, Maurice I, p. 241, not illus.?) that we need have little hesitation in assuming these coins to have been some of the earliest Constantinian issues of the neighboring cities of Nicomedia and Cyzicus. They can hardly be later than the end of 324 when Constantius had become Caesar (he is specifically so designated on the obverse of his Cyzicene piece matching our Cyzicene *Æ* of Constantine Caesar), or the very beginning of 325. That Nicomedia struck only for the Emperor and his eldest son Crispus, and Cyzicus exclusively for the two younger Caesars, evidence not known to me may deny, but the possibility of this distinction between mints in a world grown excessively conscious of rank must be considered. Nicomedia as eastern Capital may have in this manner been given at once a slightly higher rank as a mint than Cyzicus. The fact that he planned the founding of Constantinople at Byzantium shows that the Emperor had a personal or official policy with regard to the status of the cities.

The scene and the legend on these rare coins are evidently Constantinian innovations. A similar silver piece with but three people in the scene—Constantine, Crispus, and Constantine Junior, had been struck for the Emperor (Maurice, II, p. 414, Pl. 12, 18, the figures do *not* hold globes; Gneecchi, no. 15, Pl. 29, 1) and Crispus (Gneecchi, no. 1, Pl. 29, 12) at Sirmium. Maurice placed Constantine's piece (he

did not list any for Crispus) in his "second issue," which he dated after the elevation of Constantius to the position of Caesar in November, 324. But these silver issues of Constantine I and Crispus can hardly be placed in a group so dated, since only two Caesars are represented with the Emperor and the time of issue must therefore precede Constantius' elevation as Caesar. It is in the very nature of this coinage that it was issued earlier than the date assigned by Maurice—if not in 317 when Crispus and Constantine became Caesars, at least by 320, the date at which M. places the opening of the mint of Sirmium in accordance with datable reverse legends, though this is an uncertain criterion at best, the dates on the coins indicating only a *terminus post quem*. Sirmium became a Constantinian city with the first defeat of Licinius, now dated by P. Bruun, after an analysis of the evidence, literary and numismatic, in 316 rather than 314 in "The Constantinian Coinage of Arelate," *Suomen Muinais-Muistoyhdistyksen Aikakauskirja* 52 (Helsinki, 1953) pp. 17–22. Except for lacking one Caesar the silver issues of Sirmium resemble in reverse type and legend the 324 A.D. silver issues of Nicomedia and Cyzicus, cities which were taken almost ten years after Sirmium had become Constantinian. Coinage with this type and legend (FELICITAS ROMANORVM) must have been issued soon after a city changed imperial hands rather than at a date long after its change of status. For the silver issues of Sirmium any date after Crispus and Constantine became Caesars (317) would have been possible; why not 317 itself? This date would fit in with the manner in which Sirmium functioned as a mint of special issues. For a mint of special issues it was, and that is why it is perhaps misleading to speak of its "opening" as a mint. Under Constantine, Sirmium was clearly a mint which issued sporadically for occasional issues primarily because of the Emperor's presence there at times when he wished to celebrate some event (victory, consulship, vota ceremony: see Maurice, p. 388) by issuing coins. This character of the mint is revealed not only by the coin legends of Sirmium but by the scarcity of coins bearing its mint mark in our trays. In 317 a silver issue of dynastic significance coming from former Licinian territory and close to present Licinian territory would have had more point than at a later time. True, Constantine Caesar was but a babe,



but the simultaneous elevation of the child Licinius to the rank of Caesar must have had considerable effect on Constantine's policy in preparing the succession within his own family. And it may be worth mentioning that 317 was the year of the birth of Constantius II as well as the year his older brothers became Caesars. Constantius was not made Caesar until 324, when he joined his brothers on the coinage. Though Constantine was in less haste to make this third son Caesar than he had been in the case of his second son Constantine, he nevertheless struck coins for Constantius Caesar as soon as the title was conferred, and there is no reason to think that he delayed the striking of the dynastic silver of Sirmium for several years beyond the elevation of his first two sons in 317. The ANS does not possess an *AR* piece of Sirmium of the type discussed above, but we reproduce (PLATE XVIII, 16a) a Newell miliarensis of Sirmium with the Emperor's portrait on the obverse and the portrait of the young Caesars Crispus and Constantine on the reverse—a different type of “elevation” coinage.

Another silver piece of the same type—with but two Caesars—was issued by Constantine I at Heraclea in Thrace (SMH, Gneccchi, no. 14, Maurice II, p. 600, Pl. 17, 20). Since the mint is Heraclea, this piece can have been issued only after the defeat of Licinius, when Heraclea came into Constantine's control, and since there are but two Caesars represented with the Emperor, the coins could have been issued only after the death of Crispus (end of 326) and before the closing of the mints between that event and the elevation of Constans, the fourth son, to the rank of Caesar in 333. Maurice places the closing of the mints shortly after the death of Crispus.

Similar pieces issued at Nicomedia by Constantine Caesar and Constantius Caesar (Maurice III, p. 72; Gneccchi, p. 61, no. 10, Pl. 29, 14 for Constantine, listing *Crispus* and Constantine as the sons represented; p. 66, no. 28, Pl. 32, 2, for Constantius, listing all three figures as *sons* of Constantine I) must be given a similar dating, shortly after the death of Crispus (Maurice places the closing of the mint at Nicomedia from the beginning of 327). As with all the issues discussed above, these issues of Constantine at Heraclea and his sons at Nicomedia (a division of mints between Emperor and Caesars?) were evidently struck to indicate a new status of imperial rule, in this

case, the reduction of the Caesars to two, and the affirmation of these Caesars, along with the Emperor, as the present symbols of the *Felicitas* of the Empire.

In conclusion, I should like to point out that many years later Constantius II as Augustus issued similar silver for himself and his Caesar at least at Aquileia and Sirmium in the West, and at Nicomedia and Antioch in the East. For, to standard listings of these pieces (Gnecchi, no. 25, Pl. 31, 14, SIRM; no. 26, Pl. 32, 1, SMN; no. 27, not illus. AQ) we can add a beautiful specimen from the Gautier Collection which we acquired in 1948. This miliarensis was struck at Antioch and therefore comes from one of the two main regions where Marcel Gautier made his collection. We publish it here (PLATE XVIII, 16b) as a fitting companion, though struck a generation later, to our new silver piece of Constantine Caesar, which has provided the stimulus for the discussion of the group. Anent the piece of Constantius II Augustus the question which at once presents itself is: who is the Caesar represented beside the Emperor clearly recognizable as Emperor by the diadem ends hanging from the back of his head? Constantius Gallus became Caesar for Constantius II in the spring of 351, Julian, toward the end of 355 A.D. Since young Julian shared with Gallus the peculiar coiffure by which the hair was turned slightly back and upward and tied (see the obverses of these Caesars, particularly on the gold of various mints), this feature cannot prejudice us in choosing between the two. But Gallus is to be preferred perhaps because a matching piece was struck in his name at Nicomedia (Gnecchi, no. 1, Pl. 33, 12; Cohen 19, Paris, illus.) and because comparison of the portrait of Constantius II on the obverse of the Gautier piece with the many Antiochene  $\text{AE}$  coins of this Emperor in our trays shows the silver portrait to belong to the period when Constantius II shared the coinage with Gallus. A transformation of the type into a Victory type (Victory crowning the Caesar?, VICTORIA ROMANORVM) can be seen on Antiochene silver of like denomination and struck in the name of Gallus (Gnecchi, no. 4, not illus.; Cahn Sale Cat. 60, lot 2142). And Julian as Augustus was to issue the same type from Antioch (Gnecchi, no. 5, not illus.; Ratto Sale Cat. June 7, 1926, lot 2552) and from Sirmium (Gnecchi, no. 4, not illus.; Cohen 63, illus.), an example from which mint came to us with the Newell

Collection (PLATE XVIII, 16c). Thus were fused in a new type the dynastic concept of the FELICITAS ROMANORVM type and the idea of Victory associated with the type when it served to announce the acquisition of new mints as well as the dynastic status of the House of Constantine. Under Jovian and the House of Valentinian modified types receive the legend GLORIA ROMANORVM.

17-19. Bronze pieces of Vespasian, Titus, and Domitian on which the mark of denomination XLII was incised in Italy about 450-500 A.D.

Cf. *BMC Vand.* p. xviii. *Ex* Holzer Collection. Purchase.

These pieces were purchased separately before the acquisition of the entire Holzer Collection of countermarked coins, which does not come under consideration in the present listing of 1953 accessions.

20. ARIADNE, wife of ZENO (474-491 A.D.). Tremissis. Cross within wreath. AEL ARIA DNEAVG. Sabatier, p. 142, 2. Tolstoi, Pl. 10, 71. Goodacre, p. 47.

↘ 1.37 Purchase.

Besides the illustrations of tremisses of Ariadne in the above mentioned works, others can be found in the following:

Montague Catalogue (Rollin and Feuardent, Apr. 20, 1896), lot 1075.

Serrure „ October 12, 1896, lot 147.

Hirsch „ 31 (1912), lot 2077 = Hirsch 24 (1909) lot 2985.

Naville „ 3 (June 16, 1922, Evans), lot 291.

Of these, the Montague piece alone, like our tremissis, shows the star clearly after CONOB. The end of CONOB is frequently off flan, making it impossible to tell whether a star appeared after the B or not. The exergual letters as well as the star are clear on our piece, as the photograph shows.

Sabatier reports a solidus of Ariadne (p. 142, no. 1: Vienna), but I have found notice of no other.

21. JUSTINIAN I. 40 nummia. Æ. Officina Δ, yr. 13 (539/40 A.D.). Antioch. *BMC Byz.* p. 55, 287.

↓ 21.63 Purchase.

22. TERRACOTTA MOLD. Laureate head of Septimius Severus. SEVI (sic) [RVS] PIVSAVG (incuse and retrograde). Laureate bust of Elagabalus. IMPANTONINVSAVG (incuse and retrograde). Red with gray centers where denarii were impressed. Channel cut. Mold, 25 mm. Impression, 17 mm.

Purchase.

Severus used the title impressed in this mold on coins dating from 201 A.D., see, e. g., *BMC RE*. V, pp. cxli, 190. The portrait and imperial title of the young head are those of Elagabalus, not Caracalla (on the title, 219–220 A.D., see *BMC RE*. V, pp. ccxxx and ccxxxv). This mold is of special interest not only because of the combination of heads but because the majority of these molds that are published today seem to show later imperial busts, particularly those of the Tetrarchy. When Babelon, who evidently knew only finds from Europe and Tunisia, wrote the first volume of the *Traité*, he said (col. 957) that the majority of molds of Roman coins related to the period between Septimius Severus and the Tetrarchy, the greatest number of molds being of Caracalla and Elagabalus. While this may be true of the North, will it also turn out to be true for Egypt, where a predominance of molds for the period of the Tetrarchy would be consistent with the published evidence known to have come from there and including both Diocletianic tetradrachms and folles of the Reform?

In 1949 the Society received a gift from Mr. I. A. Feldman of 104 molds, all of them issued in the names of Galerius and Maximinus Daza, except for three, two of which bore impressions of Diocletian, one of Galeria Valeria. Most of the impressions of reverses bore the mint mark of Alexandria (ALE), a few were impressed with the mark of Antioch (ANT). Clearly, the coins made with them were intended to give the impression of coming from the mints indicated, though it is likely that all were from one place, i.e., Egypt (cf. the article of Dr. El-Mohsen El-Khachab cited below, p. 41, note 1, on molds from the Fayum).

Some of the early articles on these clay molds make fascinating reading. They are cited in Babelon's footnotes (*Traité*, cols. 955–956) and also by L. Cesano, "Intorno alle forme da fondere monete imperiali romane," *Rassegna Numismatica*, 1912, pp. 33–69, who, treat-

ing the subject in a general study of cast coinage of the empire, listed also the finds and reported few molds in Italy (p. 34), and these probably from Egypt, at the time of writing. In his article on "Ancient Methods of Coining," *Num. Chron.* 1922, G. F. Hill discusses the molds briefly. Accounts of particular finds were given by Milne (*Num Chron.* 1905, pp. 242-53 and *Ancient Egypt*, 1931, pp. 73-74) and Dattari (*Riv. Ital. Num.* 26, 1913, pp. 484-509) for Egypt. And in the *Revue Numismatique* of 1908 Robert Mowat published a list of molds from Alexandria impressed with the portraits of Constantine, Licinius, and Maximinus Daza and the mint marks of Alexandria, Antioch, and Nicomedia. He preceded this list with a description of molding utensils found in 1704 in the region of the old Roman forum at Lyons (Fourvière) and with an interpretation of evidence that coins of Julia Maesa were being molded along with coins of Julia Domna, Caracalla, and Geta. This interpretation (namely, that Maesa became an Augusta under Septimius Severus) dominated the title of the article, while the molds took a subordinate place. It is essential to take note of this article here. A mold for Maesa is said to have been found along with molds of members of Severus' immediate family (the Plate shows a mold of *Mamaea*, no. 8); while there appears to be no evidence that Maesa's portrait appeared on the same mold with a member of Severus' family, as Elagabalus appears on the opposite side of our mold of Septimius Severus, yet this evidence suggests reproduction of Severan coins at a later date, as does our mold. In that case, the Fourvière (Lyons) molds are evidence for such reproduction rather than for coinage of Maesa as Augusta under Severus, an idea which seems to have found no acceptance among numismatists, who doubtless have some other explanation for those portraits of Maesa which appear to be much younger than others. A thorough going over of all the material from Fourvière and other Gallic sites would probably be worth while, particularly if further excavation should produce new material (a review of the recent publication of excavations at Fourvière laments the neglect of the treatment of small objects, including the coins). Particularly interesting for us would be the discovery of other examples of portraits from reigns of different periods on one and the same mold. For in such cases, as in the case of our mold, the mold is itself a mule and this

kind of mule is to be distinguished from molds which bear on each face portraits of the same period or the production of mule-coins from molds as related, for example, by Milne for the coins of the Tetrarchy in *Num. Chron.* 1905, p. 352.

There have been a number of recent articles on this fascinating method of coin production and its meaning. In 1943 (*Numismatic Review*, N. Y., I, pp. 57–8) H. Holzer published two molds with impressions of Maximinus Daza and Licinius. In 1950 M. Jungfleisch (Spink's *Numismatic Circular*, pp. 249–252: "A propos des moules en terre ayant servi à couler des monnaies romaines") discussed the relation of the method to the silvering of coins, the location of the sources of silver, and the official use, as against the forger's use, of the method. Shortly after the appearance of Jungfleisch's article, Dr. Abd El-Mohsen El-Khachab published illuminating material in the Cabinet des Médailles of the Cairo Museum: "Les monnaies coulées fausses et les moules monétaires et à bijoux du Cabinet des Médailles du Musée du Caire," in *Annales du Service des Antiquités de l'Égypte*, 51 (1951). And after the above words were written there came to hand the bibliography by M. Jungfleisch and J. Schwartz: "Les moules de monnaies impériales romaines (essai bibliographique)," *Supplément aux Annales du Service des Antiquités*, Cahier no. 19, Cairo, 1952.

The mold we publish here—no. 22—is from the workshop of forgers of or after the reign of Elagabalus or of officials reproducing coins to meet local needs, probably later than Elagabalus; cf. *Rev. Num.* 2, 1837, pp. 178–9. In either case, it is no earlier than the reign of Elagabalus. In no other way can this mold be explained, for the simultaneous use of the two portraits on an official mold would otherwise presuppose that Severus and Elagabalus were colleagues or that officials during the reign of Elagabalus were not embarrassed at issuing such hybrids. The mold would of course have produced bronze cores for plating (but cf. *BMCRE* V, p. xxviii) or coins of base silver. Of cores we have sufficient evidence from the second and third centuries to prove their existence, some evidently made from molds impressed with worn coins. On the kind of silvering given the coins produced from molds, see Jungfleisch's article cited above.

The simplest explanation of our mold, then, is that it represents a clear case of forgery. But the evidence of the great Gallic finds warns us that we cannot always distinguish between ancient forgeries and irregular issues of the third century (cf. Milne on the fourth century, *Num. Chron.* 1905, p. 349), since large minting establishments operating in conspicuous places employed this system of reproducing coinage.

23. CONTORNIATE. Head of Nero/Warrior holding palm in l. and leading horse with r. 35 mm. Purchase.

Belongs to the "middle issues" of Alföldi's main group (356–394 A.D.), *Die Kontorniaten, ein verkanntes Propagandamittel der stadtrömischen Aristokratie in ihrem Kampfe gegen das christliche Kaisertum*, Budapest, 1943, p. 145, no. 155 in the catalogue (Pl. 20, nos. 5–6, Paris); another, with incised palm branch, Munich. *Obv.*, p. 92, no. 57; *rev.*, p. 122, no. 173.

ALINE ABAECHERLI BOYCE

## A ROMAN BRONZE WEIGHT FROM EGYPT<sup>1</sup>

(SEE PLATE XIX)

The weight, an almost square plaque of bronze,<sup>2</sup> is chiefly interesting because of its two inscriptions: one serving both as a date and as a guarantee; the other giving its weight in Roman units.

The first inscription, neatly incised in four lines on the upper part of the weight's top surface, reads:

Λδ' αὐτοκράτορος Καίσαρος  
Νέρουα Τραιάνου Σεβαστοῦ  
Γερμανικοῦ ἐπὶ Γαίου Μινικί  
ου Ἰτάλου ἡγεμόνος

The fourth year of Trajan was 100/101 A.D. C. Minicius Italus' term as prefect of Egypt is well documented by both inscriptions and papyri. This material, which is conveniently summarized by A. Stein,<sup>3</sup> shows Minicius acting in his official capacity in 101-103 A.D. The last attestation of his predecessor is in the second month of 100 A.D., and the first of his successor is dated to the latter part of 103 A.D.<sup>4</sup>

The second inscription, incised on the lower half of the top surface, is:

ΛΑΒΑΥΡΑ

i.e., three abbreviations<sup>5</sup> of Roman weight units, each of which is followed by a number:

λί(τραί)	Ι	1 litra (pound)
ο(ῦ)γ(γίαι)	Ι½ <sup>6</sup>	1½ ounces
γρ(άμματα)	4	4 grams (scruples)

<sup>1</sup> The weight was acquired several years ago in Cairo by George C. Miles and is now in the collection of the American Numismatic Society. I am indebted to him for permission to publish it, to Mrs. Aline Boyce for suggesting that I do so, and to both Mrs. Boyce and Mr. Miles for their interest and help.

<sup>2</sup> Length: 67 mm. width: 66 mm. thickness: 10 mm.

<sup>3</sup> *Die Präfecten von Agypten in der Römischen Kaiserzeit* (Bern 1950) pp. 49f.

<sup>4</sup> *Loc. cit.* pp. 48f. and 50f.

<sup>5</sup> For these abbreviations, see those used in the metrological writers (*Metrologorum Scriptorum Reliquiae* ed. by F. Hultsch, vol. I pp. 169ff.).

<sup>6</sup> For the interpretation of this symbol as ½ see *Metrolog. Script.* I p. 173, n. 2.



The value of the Roman units, with 24 grams (scruples) to the ounce and 12 ounces to the litra (pound), has long been known and is based on information from the metrological writers and on averages of large numbers of coins:<sup>7</sup> one litra is equal to 327.45 gr. The weight here recorded is 373.19 gr.

Before the recorded weight is compared with the actual weight of the piece, something must be said of its present condition. This is generally good, but a few corroded spots and some wear (both visible in the photograph) make it likely that its present weight will be somewhat less than the original weight attested by the inscription. The present weight is 356.60 gr. and so about 4% less than it should be.

Two similar weights are known to me.<sup>8</sup> Both are from Egypt; both have two inscriptions: the first, which is the same on both, dates the weights to the sixth year of the Emperor Nero and the prefectship of L. Julius Vestinus; the second gives the weight. One (no. 1374) is marked: 1 litra, 2 ounces, 3 scruples; the other (no. 1379) is marked: 1 litra, 1 ounce, 2 scruples. They should weigh 388.71 and 359.28 gr. respectively.<sup>9</sup>

The fact that the three pieces, from a span of about forty years, all have weight inscriptions which indicate weights of a little more or less than one litra and two ounces is both puzzling and suggestive, since ordinarily weights are units, or multiples or fractions thereof. What these weights seem to suggest is the existence of a double standard. That is, each of them is a litra by the first standard and something more or less than a litra and two ounces by the second. That the second standard was the Roman is guaranteed by the close approximation of actual to indicated weights. That the first standard should be Egyptian is suggested by the weights' provenience.

Although the metrological writers do not mention any Egyptian litra,<sup>10</sup> they frequently distinguish between the Italic mna of 18

<sup>7</sup> Hultsch, F. *Griechische und Römische Metrologie* (Berlin 1882) pp. 155 ff.

<sup>8</sup> *I.G.R.* I. 1374, 1379.

<sup>9</sup> The actual weight is not published for 1379; 1374 is given as 380.70 gr. by Longperier, *Journ. des Savants* 1873, p. 751.

<sup>10</sup> A distinction between Italian and Alexandrian litrai in papyri is noted by A. Segre, *Metrologia* (Bologna 1928) p. 48, but I can not agree with the weight which he assigns to the latter.

ounces and the Alexandrian mna of 20 ounces.<sup>11</sup> If this ratio of 9:10 be applied to Italic and Alexandrian litrai, the latter will be 363.83 gr. That such a litra existed and was used is confirmed by the well-attested drachma of 3.638 gr. (one-hundredth part). The Italic litra is divided into 90 such drachmas, thus showing the 9:10 ratio again<sup>12</sup> The Alexandrian mna has 150 such drachmas.<sup>13</sup>

The three weights which must, in accordance with their inscribed Italic weights, have weighed 388.71, 373.19, and 359.28 gr., may be thought of as Alexandrian litrai marked with their Italic equivalents. That the heaviest is almost 7% overweight and the lightest slightly more than 1% underweight suggests what has often been suspected, that the minutest accuracy is not to be looked for in ancient metrology.

MABEL LANG

<sup>11</sup> *Metrol. Script.* I. 212, 16; 214, 9; 228, 25; 232, 5; 240, 12, 14.

<sup>12</sup> *Ibid.*, 238. 16.

<sup>13</sup> *Ibid.* 208. 19.



## THE RELATION OF SUBSIDIARY COINAGE TO GOLD UNDER VALERIAN AND GALLIENUS

The period between A.D. 253 and 268 saw the Roman Empire at its lowest point politically and financially. Perhaps half of its territory had been lost to foreign powers or to revolters, and large portions of the rest had been damaged by hostile raiders. The effect on government finances was immediate; collection of taxes and rentals of imperial properties fell, while as a result of constant fighting, military expenses remained high. The government made up the difference between cash expenditures and cash receipts in the only practical way available to it, namely by the issuance of vast quantities of silver-washed antoniniani.

It seems remarkable that under such conditions the Roman currency maintained its purchasing power as long as it did. Evidence now extant shows that the great break in the purchasing power of the currency as shown by extremely high prices occurred in the ten-year period following the death of Gallienus, rather than in the period preceding that event.

For the most part, references to theories differing from those advanced here have been omitted. The literature on the breakdown of the Roman currency system is both extensive and well known. Little, if anything, can be gained by a restatement of all the hypotheses that have been advanced to account for the collapse of the monetary system, or of those intended to explain the two great attempts at reform.

That a shortage of gold and silver was responsible for the debasement of the coinage under Gallienus and his successors is only partially true.<sup>1</sup> It was not an absolute shortage of silver but a relative shortage that finally brought about the appearance of the silver-washed coins of the third century.<sup>2</sup> If Gallienus had to issue ten times as many

<sup>1</sup> See F. Lot, *La Gaule romaine* 384, for example, but the writer of SHA Gallien. 15. 2, does not indicate a shortage of gold.

<sup>2</sup> The author of SHA Aurel. 46, speaks of the abundance of gold at that time, pointing out that it was more common than silver.

silver coins as Septimius, he would need as much silver bullion even if each coin had only one-tenth of the silver content of the earlier coin. A reduction in the production of silver at the middle of the century is probable, but the basic difficulty was brought about by other factors: a) the great excess of governmental expenses over cash receipts, resulting in the necessary striking of vastly increased supplies of "silver" coins; b) the fact that these issues were so greatly in excess of amounts necessary for business needs or for tax payments, that large numbers disappeared from circulation. Under such conditions the striking of a great number of coins in one year did little if anything to improve the government's fiscal problem in the next year when the same process had to be repeated.<sup>3</sup>

Financial difficulties at the end of the first world war caused some European countries to substitute for good silver coins, tokens of copper or brass. This was no worse than the Roman recourse to silver-washed coins. In one respect the performance of the Roman government was better; it never stopped entirely the striking of gold, even though the amounts were relatively so small that any right of conversion from silver was extreme difficult, even if it was theoretically possible.

As a matter of fact the amount of gold issued by Valerian and Gallienus is larger than might be expected. A total of 642 different extant coins have been identified representing 300 different types. In addition there are 58 other types about which some question may be raised.<sup>4</sup> Even though the number of coins struck from each die may have been small, the number of dies, representing on the average nearly two every month, effectively does away with any argument based on an absolute shortage of gold.

With our present information it is impossible to determine the system on which the gold coins of Valerian and Gallienus were struck. If, as now seems likely, they were intended to circulate on the basis that each carat of gold was worth a certain number of antoniniani,

<sup>3</sup> H. M. D. Parker, *History of the Roman World from A.D. 138 to 337*, 278, for example, states that the emperors of the third century favored a policy of currency inflation to give an air of artificial prosperity to the empire.

<sup>4</sup> This is based on an unpublished revision of Menadier's catalogue of the gold coins of Valerian and Gallienus.

then no adherence to a weight standard was necessary. Certainly none is evident. The difficulty of interpreting the available information is increased by the numerous mistakes of fact that appear in the commonly used handbooks and catalogues.<sup>5</sup> Weights that appear accurate may be tabulated as follows:

## GOLD COINS OF VALERIAN, GALLIENUS, ETC.

(Medaillons are omitted)

*Valerian Mariniana Valerian II Saloninus Salonina Gallienus*

5 carats or less						18
6						10
7						11
8	1					6
9			1	1		7
10	3				1	12
11	8			1	8	9

\* At least one hundred such errors occur in the relevant sections of RIC, vol. V, part 1, and in other readily available works. A few examples may be given here:

*Coins of Valerian*

RIC 51, 275: the same coin is assigned to two different mints (note weight, 3.74 gr.)

*Coins of Saloninus*

RIC 17: two weights given here to coins of Cohen type 48 are given by Menadier No. 6 to Cohen 44.

*Coins of Gallienus (joint)*

RIC 1, 73: the same coins are assigned to two different mints as is evidenced by the four duplicate weights.

RIC 65: the correct weight of this coin is probably 12.25 gr. Other weights given by Cohen, Gnecci and in NZ 1926. 146 are apparently errors.

*Coins of Gallienus (sole)*

RIC 8: Two weights are given for one coin; Gnecci gives three weights for the same coin, one of them, which is copied by MS, represents a confusion with the *size* of the coin.

RIC 97: two weights are given to the same coin.

RIC 99: three weights are given to the same coin.

RIN XVII (1904) plate 2. 4: a stigma in the field of this coin appears in the text as a T.

RIC lists Gallienus, Cohen 54, both as an as and as a dupondius; sole 414, 545. Gallienus, Cohen 432, is assigned both to the joint and sole reigns (RIC joint 269; sole 421). The same thing is true of Cohen 993 (RIC joint 414; sole 544).

	<i>Valerian</i>	<i>Mariniana</i>	<i>Valerian II</i>	<i>Saloninus</i>	<i>Salonina</i>	<i>Gallienus</i>
12	12	1	2	4	2	16
13	10			2		12
14	10		1	2	1	14
15	10		2		2	17
16	6		2		1	17
17	11	1			3	16
18	5	1			1	9
19	4				3	15
20	2		1			9
21	4		2	1	1	8
22				1	3	17
23	3					13
24						14
25					1	10
26						8
27				2		8
28	1					3
29				1		1
30						5
31						4
32						7
33						4
34	1					
35						1
36						1
37						1
38						
Total	91	3	11	15	27	300

From the metrological point of view this is coinage at its worst. It seems definitely a coinage that passed by weight, not tale. That picture is not materially changed even when the coins are broken down into such chronological groups as is possible.

Among the earliest coins issued by Valerian and Gallienus are those with the obverse legends written as follows:

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 99

- a) IMP C P LIC VALERIANVS AVG
- b) „ „ „ „ GALLIENVS AVG
- c) „ „ „ „ VALERIANVS PF AVG
- d) „ „ „ „ GALLIENVS PF AVG

Weights of the appropriate coins are as follows:

<i>Carats</i>	<i>Number of coins</i>		<i>Fractions of a pound</i>
	<i>“a” and “b”</i>	<i>“c” and “d”</i>	
8		1	
9			
10		5	
11		9	
12	4	13	1/144th
13	4	9	
14	9	2	
15	12	6	
16	8	3	1/108th
17	6	6	1/100th
18	4	3	1/96th
19	5	3	
20	2	2	
21	3	1	
22			
23	2		
24			1/72th
25			
26			
27			
28	1		
29	1		
30			
31			
32			
33			
34	1		1/50th
Total	62	63	



The coins marked "a" and "b" are apparently slightly earlier than those marked "c" and "d". Even though points of concentration are not clearly defined, there is a marked difference between the two groups. The first group seems to represent units at 100 to the pound, or half-units at fifty to the pound, while the second group units at 144 to the pound or half-units at seventy-two to the pound.

Fairly late in the joint reign are the coins of Gallienus with some form of GERMANICVS on the obverse or some reference to VICTORIA GERMANICA on the reverse. All of these should be earlier than the date of the revolt of Postumus. Weights are as follows:

<i>Carats</i>	<i>Number of coins</i>	<i>Carats</i>	<i>Number of coins</i>
9	2	17	
10	2	18	
11		19	3
12	4	20	3
13	4	21	
14	1	22	1
15	1	23	
16	2	24	
		25	1

The coin weighing 25 c. is one with a retrograde obverse legend and one that does not seem to belong to any regular imperial issue. The others seem metrologically to resemble more closely the coins just listed as "c" and "d" than those in "a" and "b".

Dated to 262 or 263 are the multiple pieces of Gallienus marked COS V. Weights of four examples are known:

27.58	grammes	or	146	carats
23.175	„	„	122	„
22.60	„	„	120	„
13.63	„	„	72	„

These weights do show a definite pattern for they are in the ratio of 3:5:6, if one assumes an error in weight of 2 carats in the case of the two heaviest coins. If the smallest piece actually represents three

units, then it seems that Gallienus was theoretically striking on the basis of 72 units to a pound with each unit weighing 24 carats but in the striking of units or half-units making no effort that is now apparent to adhere to that standard.

Weights of still later coins: VOTIS X, VOT X ET XX, and VII DES COS, seem to indicate also the same adherence to a unit of 24 carats though not as clearly as the multiple pieces just mentioned.

If these gold coins are considered to be integral parts of a monetary system then two things seem clear: first, that the individual coin had to pass by weight and by weight only; and second, that there was a statutory relationship between the unit of weight of the gold coin (the carat) and the subsidiary coins. Without such a statutory tariff value for the silver and aes, there could be no monetary system at all and obviously no point in striking coins in three different metals. That there was a definite system of monetary values is proved by contemporary inscriptions, by the various denominations of imperial subsidiary coins issued by Valerian and Gallienus and finally by the numerous provincial issues that bear marks of value.

The vagaries of weight, whether brought about by order of the government or not, could only increase popular uncertainty as to value of money, and yet any extant evidence of this popular distrust of the value of money appears only after the reform of Aurelian.

The period from 253–268 is marked by the definite establishment of imperial branch mints in Northern Italy and elsewhere. The occasion for these seems to have been the need for more convenient sources of supply to meet army payrolls.<sup>6</sup> At Rome Gallienus seems to have first operated six officinae, then nine and finally, about 265, twelve.<sup>7</sup>

In the later part of the period, mint marks and officina marks on the coins became common, although a few such marks had appeared earlier, as at Rome under Gordian and at Antioch under Gallus.

The number of these marks that occur on the coins of Gallienus is surprisingly large.<sup>8</sup>

<sup>6</sup> From 260 on, imitations of the radiate issues of the Roman and Gallic emperors are common in Britain and Gaul: C. H. V. Sutherland, *Roman Britain* 57.

<sup>7</sup> *Gallia* 1947, 323.

<sup>8</sup> *Revue Pelge* 1951, 39. ff.

## A. Latin numbering of officinae

<u>P</u>	<u>P</u>	<u>P</u>
<u>S</u>	<u>S</u>	<u>S</u>
<u>T</u>	<u>T</u>	<u>T</u>
<u>Q</u>	<u>Q</u>	<u>Q</u>
<u>V</u>	<u>V</u>	<u>V</u>
<u>VI</u>	<u>VI</u>	<u>VI</u>
<u>N</u>	<u>N</u>	<u>N</u>
<u>X</u>	<u>X</u>	<u>X</u>
<u>XI</u>	<u>XI</u>	<u>XI</u>
<u>XII</u>	<u>XII</u>	<u>XII</u>

A retrograde form of this letter is fairly common.

The Latin nona (confused with Zeta)

The retrograde form IX also occurs

## B. Greek numbering of officinae, used apparently only at Rome, and after 263 or 264

<u>A</u>	<u>A</u>	<u>A</u>
<u>B</u>	<u>B</u>	<u>B</u>
<u>Γ</u>	<u>Γ</u>	<u>Γ</u>
<u>Δ</u>	<u>Δ</u>	<u>Δ</u>
<u>Ε</u>	<u>Ε</u>	<u>Ε</u>
<u>ς</u>	<u>ς</u>	<u>ς</u>
<u>Z</u>	<u>Z</u>	
<u>H</u>	<u>H</u>	<u>H</u>

Sometimes confused with H

Sometimes confused with Γ and S

Sometimes confused with A

C. Names of Mints

$\frac{|P}{M}$      $\overline{PM}$      $\overline{MP}$     The forms MP, MS, MT are the latest in date  
 $\overline{MS}$   
 $\overline{MT}$      $\overline{T|M}$   
 $\overline{SI}$      $\overline{SI}$      $\overline{|SI}$      $\overline{S|I}$      $\overline{I|S}$   
 $\overline{S|P}$      $\overline{P|II}$

D. Symbols     $\overline{U|}$      $\overline{|U}$

$\overline{X}$      $\overline{X}$   
 $\overline{*}$      $\overline{*|}$      $\overline{|*}$   
 $\overline{*|P}$      $\overline{*|}$      $\overline{X|II}$      $\overline{*|S}$   
 $\overline{B|*}$     The B here may be an error for P  
 $\overline{.}$      $\overline{..}$      $\overline{.....}$   
 $\overline{\text{~~~~~}}$

E. Dates and Possible Dates

$\overline{COSV}$      $\overline{CVIPP}$      $\overline{CVIPP}$   
 $\overline{PXV}$      $\overline{VIIC}$

F. Others

$\overline{PP}$      $\overline{SPQR}$   
 $\overline{XXI}$     A hybrid with a rev. of Probus

Few of these marks are found on the gold coins or on the reverses of aes.

Some of these marks are helpful in the attribution of coins to particular mints, but most of such attributions are based on factors other than the marks found on coins. Because the decision in each case of an unmarked coin is subjective to a greater or less degree, there is still a wide difference of opinion. As an example, there may be mentioned the case of a group of coins sometimes assigned to Viminacium.<sup>9</sup> In view of the manifold difficulties as to attribution and chronology, any schematic arrangement of mints in the period from A.D. 253 to 268 can only be subject to considerable doubt.

Something needs to be said about the metrology of the silver and aes coinage of the period in order to attempt an explanation of their relationship to each other, to the various local coinages and finally to the gold.

Weights of the silver coins (in carats) are as follows:

	<i>Valerian</i>	<i>Gallienus</i>	<i>Macrianus</i>	<i>Quietus</i>
Antioch anto.	(37) 21	(26) 20	(5) 22	(4) 20
all mints <sup>10</sup> anto.	(338) 18	(600) 18		
Alexandria <sup>11</sup> tetra.	(213) 57	(191) 53	(3) 53	(4) 57

<sup>9</sup> NC 1936, 103.

<sup>10</sup> The combined average for Valerian and Gallienus, including 547 coins not separated between the two emperors is 17 carats.

<sup>11</sup> The Alexandrian coins may be arranged by year of issue:

<i>Year</i>	<i>No. of coins</i>	<i>Weight in carats</i>
1	11	58
2	10	55
3	33	57
4	45	58
5	24	56
6	19	56
7	39	58
8	13	55
9	28	54
10	23	55
11	14	55
12	14	51
13	11	52
14	30	52
15	37	51

Coins of the years 8, 9 and 10 in the ANS collections average slightly heavier in weight than those listed by Milne. A definite change in weight seems to occur in year 12.

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 105

A group of antoniniani published in *Revue Belge* 1951, 39 shows results somewhat different from those above. This list is broken down into mints as well as issuing rulers:

JOINT REIGN						
	<i>Rome</i>	<i>Cologne</i>	<i>Asia</i>	<i>Milan</i>	<i>Western Mint</i>	<i>Antioch</i>
Valerian	(59) 17				(49) 17	(3) 17
Gallienus	(23) 15	(72) 17	(2) 17	(14) 14		
Salonina	(32) 15	(40) 16	(2) 18			
Mariniana	(6) 15					
Valerian II	(7) 15	(19) 14				
Saloninus		(31) 14				

SOLE REIGN						
	<i>Rome</i>	<i>Cologne</i>	<i>Asia</i>	<i>Milan</i>	<i>Siscia</i>	
Gallienus	(34) 15	(4) 16	(1) 19	(13) 13	(9) 14	
Salonina	(6) 16	(10) 15		(3) 17	(2) 16	

At Antioch the series of antoniniani struck in the name of Gallienus seems to start in 256 rather than in 254 as suggested by Webb.<sup>12</sup> The mints both at Antioch and Alexandria were taken over temporarily by Macrianus and Quietus in 260/1<sup>13</sup> and more permanently by the Palmyrenes in 266 or 267. The last coinage of Gallienus at Antioch is dated TRP XV and at Alexandria year 15.

Aemilianus seems to have struck antoniniani at two western mints, including possibly the one at Rome.<sup>14</sup> Uranius struck silver tetradrachms at Emesa in 253/4. Their weight averages 58 carats.

When Postumus revolted and took control of the western provinces away from Gallienus, he established mints at Cologne and Lyons and shortly before the death of Gallienus at Milan.<sup>15</sup> During his ten year rule he issued aurei and half-aurei in gold; double antoniniani

<sup>12</sup> See Bellinger, NNM 69, 17.

<sup>13</sup> Delbruck, *Die Münzbildnisse vom Maximinus bis Carinus* favors the year 262.

<sup>14</sup> RN 1945, 15ff. One has 81.6% of silver; while ten average 32%.

<sup>15</sup> RIN 1941, 130; *Gallia* 1947, 323; *R Belge* 1951, 75.

(perhaps) and antoniniani in silver and a few aes medallions. Arranged in chronological groups the antoniniani show weights varying from 17 to 15 carats which indicates probably a mint effort to hold to a three scruple theoretical weight.<sup>16</sup>

An attempt has been made to show chronologically the decreasing silver content of the coins of Valerian and Gallienus:<sup>17</sup>

<i>Unknown</i>						
<i>Mint</i>	<i>Rome</i>	<i>Cologne</i>	<i>Western</i>	<i>Milan</i>	<i>Siscia</i>	<i>Sirmium Antioch</i>
253-256	37%		36%			
257		40%	31			
259		20%	Gallic			
<i>Empire<sup>18</sup></i>						
262	12%		19%	18%		12½%
266	7%		11%	9%	8.8%	12% 9%
267	2½%		5%	6%	4%	8.7%

This table indicates that the great debasement of the imperial money was connected with the loss of the western provinces to Postumus, an event which hampered, at the least, access to the great silver sources in Britain and which also increased the need for greater new issues of money each year.

Coinage of the sesterce and the smaller imperial aes coins seems to have ceased in 262 or soon thereafter. For all practical purposes the Roman world was left for some twenty years with but two coins, the silver-washed antoninianus and gold.

For convenience and because it was more in keeping with the practice of the Roman mint-masters weights of the aes coins are given in scruples, each of which was equivalent to 6 carats.

<sup>16</sup> *R Belge* 1951, 85 does not accept this.

<sup>17</sup> *RN* 1945, 15 ff. Also see *Gallia* 1947, 239.

<sup>18</sup> There are numerous analyses of coins of Postumus in *Gallia* 1947, 327 which are in approximate agreement with the analyses shown in this table but which seem to show that the final great decrease took place in mid 267. The analyses of five coins in *R Belge* 1951, 75, all of which were struck before 267, show an average silver content of just under 20%.

## VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 107

Weights in scruples of the imperial aes coins are as follows:

	<i>Sesterce</i>	<i>Dupondius</i>	<i>As</i>
Valerian	(45) 15		
Gallienus	(19) 14	(1) 9	
Mariniana	(3) 14		
Valerian II	(1) 16		(1) 4
Salonina	(2) 15		
Postumus	(1) 17		(1) 3

There are extant numerous large coins or medallions of Gallienus<sup>19</sup> with the legend *MONETA AVG* or more rarely *AVGG*. There is a wide variation in size and weight:

40 mm.	1 coin	51 scruples
30-39 mm.	27 coins	27 scruples
27-32 „	10 „	18 „

It seems difficult to consider these pieces as part of the monetary system. The average weights given above, if in fact they have any significance, seem to indicate a relationship of 1:1½:3. However, the identifications of the smallest size with the sesterce seems hazardous.

No hoards consisting solely of imperial aes seem to have been buried after the time of Gallienus and Postumus. The table on the following page combines the contents of some thirty-five third century hoards.

Several points of interest are brought out by this table. First of all is the clear evidence that the aes coinages retained their commercial utility until at least to the close of the reign of Gallienus.

The apparent great size of the issues struck by Trajan and his successors until the time of Commodus is evidenced by the number of those coins still in circulation a century later. In the hoards buried in the period from 253 to 268 just half of the coins were struck by Trajan, Hadrian, Pius and Marcus Aurelius.

<sup>19</sup> Apparently none were struck by Valerian.



HOARDS OF IMPERIAL AES<sup>20</sup>*The latest coin being of:**Caracalla*<sup>21</sup> *Alex Gord Phil Decius Gallus* 253-268<sup>22</sup>*Containing coins of:*

Augustus			I	I			
Tiberius							
Caligula							
Claudius							
Nero							
Galba, etc.	I			9			I
Vespasian	2	5	I	4			2
Titus	3	I					
Domitian	5	9	14	36			16
Nerva	I	3	9	17	2		7
Trajan	28	46	90	466	5	2	106
Hadrian	72	115	195	766	32	7	283
Pius	99	148	248	968	55	15	378
Marcus Aurelius	191	190	325	839	90	15	352
Commodus	62	71	107	271	35	6	133
Perinax, Didius, etc.	2	2	I	6	2		
Septimius	15	13	12	81	16	6	15
Caracalla	2	4	3	9	I		5
Macrinus					I		
Elagabalus			2	I	5	2	7

<sup>20</sup> The hoards combined in this table are: Caracalla: Bornheim, Kristendorf.  
Alexander: Manage, Herils, Montbavin

Gordian III: Macaire, Tesnieres, Marialme, Eleusis, Evreux, Guinevolle,  
Chesterfield.

Philip: S. Palo de Piave, St. Cyr, Sohlenpumpf, Busea, Cerdon, Catchitza,  
Harndon Hill, Pozzalo, Algeria.

Decius: Saintinieau, Muglar, Cape Matafu (ANS), San Nicolo Gerrei (Sardinia).

Gallus: Villaurbana (Sard.)

Gallienus, etc.: Montreuil, Cresaney, Angicourt, Dardez, Dixmuiden, Marie-  
kerke, Harn Hill, Capoterra, Talana  
(both Sardinia).

<sup>21</sup> A hoard found in 1949 at Froidmont (*R Belge* 1951, 161) contained 126  
sesterces and 10 dupondii ranging from Vespasian to Macrinus but none of  
Septimius or his family.

<sup>22</sup> Coins of Valerian, Gallienus and their families and of Postumus.

*Caracalla Alex Gord Phil Decius Gallus 253-268**Containing coins of:*

Alexander	10	11	216	124	67	160
Maximinus		3	70	43	33	77
Balbinus, etc.			9	3	1	7
Gordian III		8	133	111	82	190
Philip			42	82	45	195
Decius				13	5	102
Gallus					1	111
Aemilianus						1
Valerian, Gallienus, etc.						52
Postumus						33

The table indicates a surprisingly small number of coins struck between 193 and 222 and then a surprising increase under Alexander Severus. Of the coins buried after 222 that were struck after 193, only about 7% were struck by Septimius and Caracalla while 26% were struck by Alexander. This apparent great increase in the aes issues of Alexander may be the explanation of his *Moneta Restituta* type.

Before the death of Gallienus the numerous local coinages of the empire had all but disappeared. This may best be shown in tabular form, the coinages of Septimius being shown for comparative purposes:

## NUMBER OF CITIES STRIKING AES

<i>under</i>	<i>Eastern Europe</i>	<i>Asia Minor</i>	<i>Syrian districts</i>
Septimius	89	229	40
Valerian-Gallienus	16	128	8
Claudius II		5	
Aurelian	1	5	
Tacitus		1	

There are at least two possible reasons for the disappearance of these local coinages. One is that a rise in price levels had made the obol and its fractions commercially unnecessary. In the west, manufacture of the sesterce and its fractions in commercial quantities

had already ceased. Such a change in price levels would not need to be great to make the manufacture of comparatively small issues of coins unprofitable to the cities engaging in that practice.

A second reason for the abandonment of these local coinages is governmental ordinance. There is no extant evidence for this but an exact parallel can be found in the closing of the local mints in Africa, Spain and Gaul some two centuries earlier.

It appears that none of these local aes coinages are found in later hoards. Some must have continued in use but their total disappearance from circulation, even if that had been attempted, would have had no more economic effect than the disappearance of cents and nickels from our own monetary systems. These local issues had never been more than the small change of the areas where they were issued.

There is, however, in this period, a marked increase in the number of coins bearing marks of value. Probably the higher values assigned to many of these coins represent an effort to adjust to changing values of the antoninianus, of which coin they were fractional pieces. It is difficult, however, to find evidence in our extant sources for any great increase in prices during the reign of Gallienus, the great depreciation (not debasement) of the subsidiary coinage seeming to occur some years after his death.

A tabulation of the marked coins issued by Valerian and Gallienus follows. Where possible the average weight in scruples is given together with the number of coins weighed.

It should be mentioned that in practically every instance these marked coins represent only a small part of the total coinage; practically every city listed having one or more issues of unmarked coins.

		IA	H	ς	€	Δ	Γ	B
<i>Europe</i>	Coela							
	Thessaly					(14)8	(3)4	
	Argos	(1)11½						
	Lacedaemon		(3)8½	(1)10		(1)7½		
	Nicopolis					(1)7		
<i>Pontus</i>	Sinope	see next page						
<i>Paphlagonea</i>	Amastris							

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE III

		IA	H	ς	€	Δ	Γ	B
<i>Bithynia</i>	Heracles							
	Nicaea							
	Nicomedia							
	Prusias							
<i>Ionia</i>	Metropolis							
<i>Caria</i>	Apollonia							(1)8½
	Tabae <sup>23</sup>							(2)5
<i>Lydia</i>	Magnesis							
	Nysa			yes				
	Sardes							
	Tralles							
<i>Phrygia</i>	Philomelium							
<i>Pisidia</i>	Adada							
	Antioch						(7)6	
	Conana			(2)11				
	Etenna	(1)13						
	Isinda						yes	
	Pogla							
	Sagalassus	(10)15½		(2)11		(1)8		
	Selge			yes	see note <sup>24</sup>		yes	
	Ariassos	yes						
<i>Pamphylia</i>	Aspendus	(6)17	yes					
	Attaleia	(3)16½	yes					
	Magydos	(1)16					yes	
	Perga	(17)13½						
	Side	(21)17½	yes					
	Sillyum	(9)15						
<i>Cilicia</i>	Carallis	yes	yes				(1)5	
	Casae	(1)12½						
	Colybrassus	(5)13				yes		
	Coracesium	(1)10½	(1)8					
	Hierapolis			(1)13				
<i>Iotape</i>			yes					
<i>Irenopolis</i>			(2)11					
<i>Laerte</i>		(5)12½	(1)13				yes	
<i>Lyrbe</i>		yes						
<i>Soli</i>		(3)14						
<i>Syedra</i>		(10)12½						

<sup>23</sup> The mark IB commonly found on these coins seems to be a countermark.

<sup>24</sup> Imhoof Blumer (*Kleinasiatische Münzen*) does not give the size. Mionnet (III, 353) gives size 9 equal to about 32 mm.

The mark \* appears on coins of Gallienus from Sinope dated A.D. 260. This is the well-known symbol for denarius. It has six points whereas the stars that appear on other coins of Gallienus have eight points. One specimen in the collection of the American Numismatic Society measures 27 mm. and weighs  $11\frac{1}{2}$  scruples.

The most reasonable explanation of the mark IA is that it is to be read as "10 = I," in other words that 10 units equal the coin. This seems to more nearly meet the situation where the coins are found than to assume that the interpretation should be "10 assaria," or that "10 of these equal 1 higher valued coin," or that the A represents an officina mark.

Compared with the time of Septimius, these marked coins of Valerian and Gallienus show many differences. In the earlier period the common mark is the  $\Delta$  which was confined to mints in Europe, chiefly Moesia and Thrace; in the later period the common mark is the IA, chiefly struck in Pisidia, Pamphylia and Cilicia. Under Gallienus the  $\Delta$  was still common in the European districts though it had lost in weight.

Whether these marks indicate "chalkoi" or "assaria" or are a combination of both is difficult to say. The coins were fractions of the antoninianus and so of a theoretical denarius and theoretical drachma. The sesterce and the obol are both mentioned in documents dated in the sole reign of Gallienus while the half-obol is mentioned in a document of A.D. 250.<sup>25</sup> Small denominations therefore were in use and were needed.

Because the imperial mints after c. 262 seem to have struck on a commercial basis no coins smaller than the antoninianus, the demand in the east for small change had to be supplied by local mints. That over 20 of them independently thought of an issue marked IA is not likely.

Outside of Alexandria no local issues of silver were being issued, so the local aes issues were minted as fractions of the common antoninianus. It is tempting, because of its size and weight, to consider the IA coin as the equivalent of the imperial sesterce. On the whole, however, it seems more probable that the IA coin is an anticipation of the XXI coin introduced a few years later by Aurelian, and that it is to be identified with the denarius.

<sup>25</sup> PO 1284.

If this is so, the monetary system would be as follows:

<i>Mark</i>	<i>Number to an antoninianus</i>	<i>Equivalent in Greek currency</i>
IA	2	1½ obol
H	2½	obol
ς	3½	6 chalkoi
Δ	5	Half-obol or assarion
Γ	6½	3 chalkoi
B	10	2 „
unit	20	1 chalkous

It may be noted that on this basis the theoretical mint ratio of AR:AE was approximately 1:38, which may be compared with the similar ratio of 1:32 under Nero. Under this arrangement the pound of gold (if we assume that the antoninianus was rated as one carat of gold) was composed of 34560 units, whereas under Nero, there were 80000 quadrantes to a pound of gold. With rising prices such a change is not unlikely.

Contemporary references to money are few in number. At Palmyra, 10000 Attic drachmae are mentioned.<sup>26</sup> At Athens<sup>27</sup> there is a reference to silver denarii and also to drachmae called λεπτοῦ (ἀργυρίου). An African inscription dated A.D. 265 mentions 67000 sesterces.<sup>28</sup> This is important for it proves that there was still a recognized legal value to the coin so named, and a recognized legal relationship between that coin and the issues of silver and gold. The latest reference to the obol in a contemporary document occurs in CPH 127 of A.D. 267.<sup>29</sup>

<sup>26</sup> IGRR III, 1047 of A.D. 254; le Bas-Waddington 2601.

<sup>27</sup> *Athen. Mitt.* 1894, 248, dated mid third century.

<sup>28</sup> *L'Annee epigr.* 1905, 35.

<sup>29</sup> The Egyptian documents that refer to low sums of money are as follows:

<i>Date</i>	<i>Amount</i>	<i>Reference</i>
255	182 dr. 6 ob.	BGU 14
258	9 dr. 1 ob.	P. Fior. 322
262	48 dr.	P. Fior. 135
263	220 dr.	P O 964
266	220 dr.	P O 1200
267	20 dr.	C P H 94
267	2912 dr. 2 ob.	C P H 127

P. O. 1411 is sometimes quoted to indicate popular distrust of the currency at the middle of the third century. While the approximate date of this document seems certain, its exact date can not be fixed. The editors prefer to restore the date as the first year of Macrianus and Quietus. If so, the document can indicate nothing more than the unwillingness of a particular bank to accept the coinage of these revolvers. That this unwillingness was not general is borne out by the relatively common occurrence of the coins of Macrianus and Quietus in later hoards. That the document does not exclusively refer to official coins is evident from its mention of "spurious and counterfeit" coins. Official coins were still of sufficient purchasing power that it was profitable to imitate them and to run the risk of being caught.

As practically all local mints except that of Alexandria ceased coinage before the death of Gallienus, finds of such issues struck after 253 are not common. The distribution of Alexandrian coins, however, is wide, ranging from northern England to the Sudan. The number of English sites in the list is explained by the fact that in no other country has a similar effort been made to report such finds.

The list that follows is added evidence that coins, even of small value, did find their way far from the place of origin, and that they had more than a curiosity value. The letter S indicates a spot find while H indicates that the coin is from a hoard.

#### DISTRIBUTION OF LOCAL COINS

##### *Valerian to Diocletian*

<i>Mint</i>	<i>Ruler</i>	<i>Where Found</i>	<i>Reference</i>
Aegeae	Valerian	Antioch S	Waage, <i>Antioch</i> 78
	Salonina	" S	" " 78
Anazarbus	Valerian	" S	" " 78
Corycus	Salonina	" S	" " 78
Tyre	Gallienus	" S	" " 86
Laertes	Salonina	Tarsus S	Goldman, <i>Tarsus</i>
Thessaly	Gallienus	Corinth S	<i>Hesperia</i> X 143
Ephesus	Valerian	Xanten S	Mommsen RM 736
	"	Sardes S	Bell, <i>Sardis Coins</i>
	"	Hyerer —	NZ 1913 193

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 115

<i>Mint</i>	<i>Ruler</i>	<i>Where Found</i>	<i>Reference</i>
Poroseline	Valerian	Pergamum S	Pergamum I 355
Smyrna	Salonina	Sardis S	Bell, <i>Sardis Coins</i>
Saitta	"	" S	"
Perinthus	Gallienus	Mysia S	SNG Fitzwilliam
Heraclea	"	Carnuntum S	ZN 1936 66
Alexandria	Valerian	Wimbledon S	NC 1953 193
		London H	NC 1911 357
		Hesbaye H	R Belge 1874 186
		Watford S	NC 1930 335
	Gallienus	Mont Herapel	NZ 1913 193
		London H	as before
		Hesbaye H	"
		Brighton S	NC 1930 355
		Corinth S	<i>Hesperia</i> X 143
	Salonina	Tulle S	NZ 1913 193
		Herne Bay S	NC 1930 335
		Günzburg S	<i>Neue Beiträge zur Süd-deutschen Münzgesch.</i> 1953
	Claudius II	London H	as before
		Hesbaye H	"
		Exeter S	NC 1937 124
		Twickenham S	NC 1930 335
		Middleton S	"
		Portsmouth S	"
		Ipswich S	"
		St. Albans S	"
		Bristol S	"
	Aurelian	London H	as before
		Flensburg S	Bolin 59
		Hereford S	JRS 1943 74
		Schwerzenbach H	Blanchet 844
		Antioch S	Waage, <i>Antioch</i> 91
		Hounslow S	NC 1930 335
		Ipswich S	"



<i>Mint</i>	<i>Ruler</i>	<i>Where Found</i>	<i>Reference</i>
Alexandria	Aurelian	Liverpool	NC 1930 335
		Vienna	NZ 1891 127f.
	Probus	London H	as before
		Hesbaye H	"
		Schwerzenbach H	"
	Probus	Sardis S	Bell, <i>Sardis Coins</i>
		Xanten S	Mommsen <i>RM</i> 736
		Salonae S	" 736
		Jerbouurg H	NC 1937 135
		Newark on Trent S	<i>Guide Newark Museum</i>
		Stanton	<i>Wiltshire A. &amp; N. H.</i>
		St. Quintin S	<i>Mag. XLVI</i> 145
		Spaxton S	NC 1930 335
		Thorp Bay S	"
		Beccles S	"
		Ipswich S	"
		Tulle S	NC 1913 193
		Neuss S	" 193
(Alexandria)	Carus	Hollinwood S	NC 1930 335
		Ayrshire S	" 335
		London H	as before
		Hesbaye H	"
		Jerbouurg H	NC 1937 135
	Carinus	Market	NC 1930 335
		Harborough S	
	Numerian	Exeter S	NC 1937 124
	Diocletian	" S	" 124
		Schwerzenbach H	Blanchet 844
		El Obeid S	<i>Sudan Notes XVI</i> 187
		Pfyn H	R Suisse 1895 273
		London S	NC 1930 335
		Brighton S	"
		Torbay S	"

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 117

<i>Mint</i>	<i>Ruler</i>	<i>Where Found</i>	<i>Reference</i>
Alexandria	Diocletian	Market	NC 1930 335
		Harborough S	„
		Barrow on	
		Trent S	„
		Bullwell S	„
		Grantham S	„
		Burton on	
		Trent S	„
		Weil S	<i>Neue Beiträge zur Süd-deutschen Münzgesch.</i>
			1953
	Maximian	Hesbaye H	as before
		Jerboung H	NC 1937 135
		Carnuntum S	ZN 1933 66
		London S	NC 1930 335
		Bath S	„
		Worcester S	„
		Bullwell S	„
		Whitby S	„
		Regensburg S	<i>Neue Beiträge zur Süd-deutschen Münzgesch.</i>
			1953
		Ulm S	„

The number of third century coins counterstamped with what seem to be marks of value is extremely large, as the following list indicates.

Unfortunately there is now no indication of when or why these counterstamps were applied. About a quarter of the instances cited are on coins minted in Cilicia, Pamphylia or Pisidia. In the coins with original marks of value, the IA is the common denomination. In the case of the counter-marked coins, the B, Δ and ϣ seem the common denominations. Although there is considerable variation both in the size and weight of the coins so marked, it may be that these three denominations were counterstamped to provide greater supplies of the smaller fractions of the IA coins, and that the counter-stamping was done soon after the appearance of the IA coins.

## COINS COUNTERSTAMPED WITH A

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Septimius	Heraclea, Caria	30 mm.	BM
	Cibyra, Phrygia <sup>30</sup>	34(1) 18	ANS
Macrinus	Neapolis, Samaria	26/27	BM
Elagabalus	"	20/22	ANS, BM
Philip	Mastaura, Lydia	23	BM
	Parium, Mysia		I-B., <i>Monn. gr.</i>
Decius	Ephesus, Ionia	20(1) 3	SNG Copen.
Valer.-Gall.	"	19(1) 3	ANS
	Nysa, Lydia	22	<i>Jahrb. Ergänz. X,</i> 97

## COINS COUNTERSTAMPED WITH B

Sauromates II		25(1) 10	SNG Fitzwill. <sup>31</sup>
Septimius	Stratonicea, Lydia		Hirsch 21
	Hypaepa, Lydia	30(1) 12	NC 1939
	Tabae, Caria	25/28(1) 7	ANS, BM
	Teos, Ionia	30	I-B., <i>Kleinas.</i>
Caracalla	Cilbiani, Lydia <sup>32</sup>	30	Hunter
	Heraclea, Bith.	24(1) 6	SNG Copen.
	Tabae, Caria	35(1) 21	"
Elagabalus	Side, Pamph.	25(1) 6	ANS
	Sillyum, Pamph.	26	BM
Alexander	Tabae, Caria	37	BM
	Side, Pamphy.	26	JHS 1914
Gordian III	Tomi, Moesia <sup>33</sup>		<i>Nordgriech. I, 3437</i>
Philip	Ancyra, Phry.	26	BM
	Isinda, Pisid.	24/26	I-B., <i>Griech.</i>
	Ephesus, Ionia	29/31	BM
	Priene, Ionia	28/31 18, (2) 8	BM
	Metropolis, Phry.	14	I-B., <i>Kleinas.</i>
	Hierapolis, Phry.	24(1) 2	
	Etenna, Pamph.	23	JHS 1914
	Docimium, Phry.	23(1) 5	ANS

<sup>30</sup> The A appears in a wreath.

<sup>31</sup> This is also countermarked with the head of Septimius. The editor explains as "two denarii".

<sup>32</sup> Doubtful.

<sup>33</sup> Overstruck on a coin with an original Δ.

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 119

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Decius	Selge, Pisid.	17(1) 2	ANS
	Side, Pamph.	25/26(2) 6	Weber
Gallus	Isinda, Pisid.	23	ANS
Valer.-Gall.	Phygela	27(1) 9	SNG Copen.
	Tabae, Caria	23/26 34	
		(2) 6, (1) 19	ANS; Weber; SNG Copen.
	Ephesus, Ionia	24/28(5) 6	BM; McClean; SNG Copen.
	Priene, Ionia	27/31(3) 8	Regling, Priene; Copen.
	Colophon, Ionia	26/27(1) 8	BM; SNG Copen.
	Nysia, Lydia <sup>34</sup>	27/29	BM; <i>Jahrb. Erg.</i> X, 97
	Tralles, Lydia <sup>35</sup>	26	ANS; St. Florian
	Hypaepa	21(1) 7	ANS
	Clazomenae, Ionia	25(2) 7	SNG Copen.

## COINS COUNTERSTAMPED WITH Γ

Septimius	Ariassus Pisidia	25(1) 8	I-B, <i>Griech.</i>
Caracalla	Ephesus, Ionia	35(1) 19	I-B, <i>Kleinas.</i>
	Ariassus, Pisidia	25(1) 8	R. Suisse 1908
Alex	Sardis, Lydia	36	BM
	Erythrae, Ionia	37(1) 20	Egger 46
Maximinus	Magnesia, Ionia	23	BM
	Seleucia, Pisid	26(1) 7	ANS
Gordian III	Heraclea, Bithynia	yes	<i>Rec. gen.</i>
	Ephesus, Ionia	22	I-B, <i>Kleinas.</i>
Philip	Samos	24	Hunter
Trebon	Neapolis, Caria	29	BM
Valer.-Gall.	Ephesus, Ionia	19/20(1) 3	SNG Copen.; BM
	Hypaepa, Lydia	28(1) 6	ANS
	Ephesus, Ionia	25(1) 7	SNG Copen.

## COINS COUNTERSTAMPED WITH Δ

Augustus	Gracurris (Spain)	27	Hess Jan. 6, 1926
Hadrian	Selge (Pisid.)	24	BM
Pius	Tralles	31(1) 12	Bell, <i>Sardis</i>

<sup>34</sup> This has an original  $\varsigma$  on the other side but see *Jahrb. Ergänz. X*, 97.

<sup>35</sup> This seems to have an original H.

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Septimius	Hypaepa (Lydia) <sup>36</sup>	30	BM
	Sala (Lydia)	24(1) 7	McClean
	Petra (Arabia)	yes	BM
	Heraclea (Bithyn.)	28(1) 10	ANS
Caracalla	Seleucia (Cilic.)	32/34	I-B, <i>Monn. gr.</i>
	Amastris (Paphl.)	24(1) 4	NC 1935
	Philadelphia (Lydia) <sup>37</sup>	26	ANS
Elagabalus	Seleucia (Cilic.)	33	I-B, <i>Kleinas.</i>
Alexander	Selge (Pisid.)	25/26(1) 7	I-B, <i>Griech.</i> ; BM
	Seleucia (Cilic.)	29/33(2) 13	ANS; Hunter
	Ninica (Cilic.)	26/33	NNM 92
	Ninica (Cilic.)	32(1) 13	R Suisse 1908
Maximinus Gordian III	Seleucia (Cilic.)	29/38(2) 15	Hunter
	Ephesus (Ionia) <sup>38</sup>	32/35(1) 18	Copenhagen: Hunter
	Ephesus (Ionia)	30(1) 8	Copenhagen
	Metropolis	30(1) 8	"
Philip	Sardes	24(1) 5	"
	Laodicea (Phryg.)	25(1) 7	I-B, <i>Kleinas.</i>
	Magnesia (Ionia)	20/30	BM
	Bizya (Thrace)	—(1) 9	NC 1876
	Temnos (Aeolis)	25	BM
	Temenothyrae (Phryg.) <sup>39</sup>	31	BM
	Phocaea (Ionia) <sup>40</sup>	23(1) 7	Copenhagen
Decius	Selge (Pisid.)	23/26(2) 5	ANS
Trebonianus	Seleucia (Cilic.)	34(1) 22	ANS
Valer.-Gall.	Smyrna (Ionia)	24	BM
	Aspendus (Pamphyl.)	29	Hunter
	Etenna (Pisid.)	29(1) 13	ANS
	Tralles	20(1) 4	Copen. <sup>41</sup>

## COINS COUNTERSTAMPED WITH €

Septimius	Side (Pamphyl.)	32(1) 17	I-B, <i>Griech.</i>
	Petra (Arabia)	yes	BM
Elagabalus	Side (Pamph.)	31/35	BM

<sup>36</sup> A coin of Plautilla but doubtful.<sup>37</sup> Time of Caracalla.<sup>38</sup> Doubtful.<sup>39</sup> This also has countermark CAΓ.<sup>40</sup> Time of Philip.<sup>41</sup> The editor calls this a ç.

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 121

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Alexander	Side (Pamph.)	31/33(3) 13	R Suisse 1908
Maximinus	"	30(1) 16	ANS
Gordian III	"	30/35(4) 14	I-B, <i>Griech.</i>
	Nysa, Lydia	21(1) 4 (sic)	Copen.
Philip	Side (Pamph.)	31/34(3) 14	I-B, <i>Griech.</i>
Trebon	"	35	I-B, "
Valer.-Gall.	Isinda (Pisid.)	32/3	BM; I-B, "
	Colybiussus (Cilic.) <sup>42</sup>	31	I-B, <i>Griech.</i>
	Side (Pamphy.) <sup>43</sup>	29/33(6) 14	ANS, BM

## COINS COUNTERSTAMPED WITH Ç

M. Aurelius	Tralles, Lydia	35	Hunter
Commodus	Thyatira, Lydia	32	I-B, Münzkunde
Septimius	Alabanda, Caria	29/31	BM
	Bria, Phrygia	29	BM
	Methymna, <sup>44</sup> Aeolis	28	BM
	Gabala, <sup>45</sup> Syria	25	BM
Caracalla	Alabanda, Caria	27(1) 7	I-B, <i>Kleinas.</i>
	Gabala, <sup>46</sup> Syria	33	BM
	Tium, Bithynia		<i>Rec. gener.</i>
Elagabalus	Panemoteichus, <sup>47</sup> Pisid.	25	I-B, <i>Kleinas.</i>
	Nysa, Lydia		<i>Jahrb. Ergänz. X,</i> 97
Alexander	Tium, Bith.	28	I-B, <i>Kleinas.</i>
	Ephesus, Ionia	28/29(1) 10	I-B, <i>Kleinas.</i> ; SNG Copen.
Gordian III	Nysa, Lydia	30/36	<i>Jahrb. Ergänz. X,</i> 97
	Cyme, Aeolis	30	I-B, <i>Griech.</i>
	Aspendus, Pamph.	32	I-B, "
	Mastaura, Lydia	29(1) 8	Bell, <i>Sardis, Coins</i>
	Bruaus, Phryg.	28(1) 8	ANS
	Ephesus, Ionia	29(1) 9	SNG Copen.
	Smyrna, Ionia	28(1) 12	"
Philip	Metropolis, Ionia	28	BM
	Sardes	23(1) 6	

<sup>42</sup> Sometimes found on coins with an original IA.

<sup>43</sup> Sometimes found on coins with an original IA.

<sup>44</sup> Doubtful.

<sup>45</sup> Marked ÇA but doubtful.

<sup>46</sup> Marked ÇA but doubtful.

<sup>47</sup> Doubtful.

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Decius	Perga	22(1) 5	I-B, <i>Griech.</i>
Valer.-Gall.	Antioch, Caria	30(1) 11	I-B, „
	Ephesus, Ionia	24/27(1) 6	Syll. Copen.; BM
	Metropolis „	25/26	BM
	Smyrna, „	22/27(6) 6	SNG Copen.; Hunter
	Tralles, „	25/29	BM
	Mostene, „	28	BM
	Nysa, Lydia		<i>Jahrb. Ergänz. X,</i> 97
	Flaviopolis, Cilic.	35	ANS

## COINS COUNTERSTAMPED WITH Z

Elagabalus	Aphrodisias, Caria	36	BM
Gordian III	Lyrbe, Cilic.	33	I-B, <i>Kleinas.</i>
Philip	Casae, Cilic.	29	I-B, <i>Griech.</i>
	Carallis, Cilic.	29	I-B, „
Decius	Apamea, Phryg.	31	BM

## COINS COUNTERSTAMPED WITH H

Commodus	Hyrkanis, Lydia	35	BM
Caracalla	Tium, Bithyn.	29/35	<i>Rec. gener.</i>
	Adramytium, Mysia	35	Hirsch, Sale 13
Elagabalus	Amastris, Paphl.		<i>Rec. gener.</i>
Maximinus	Heraclea, Bithyn.	28/29	„
	Amastris, Paphl.		„
Gordian III	Nicomedia, <sup>48</sup> Bithyn.	29	„
Philip	„	29	Mc Clean
Decius	Nicomedia, <sup>49</sup> Bithyn.	22/24(2) 5	ANS
Gallus	Nicomedia, <sup>50</sup> Bithyn.	23/24(2) 5	ANS
	Nicaea, Bithyn.	24	Mc Clean
	Abonotichus, Paphl.		<i>Rec. gener.</i>
Valer.-Gall.	Smyrna, Ionia	26/30(6) 7	Hunter
	Nicaea, Bithyn.	24(2) 5	<i>Rec. gen.;</i> SNG Copen.
	Mostene, Lydia	29(1) 7	ANS

<sup>48</sup> Struck on a coin with an original ζ.<sup>49</sup> Struck on a coin with an original Γ.<sup>50</sup> These coins were probably struck at Antioch: Bellinger, *Dura* 190 n 6.

# VALERIAN AND GALLIENUS SUBSIDIARY COINAGE 123

## COINS COUNTERSTAMPED WITH IA OR I

<i>Ruler</i>	<i>Origin</i>	<i>Size and weight in scruples</i>	<i>Reference</i>
Gordian III	Nicomedia, Bith.	24	<i>Rec. gener.</i>
Decius	Nicaea, Bith.	27	"
Gallienus	Antioch, Caria	35(I) 18	ANS

## COINS COUNTERSTAMPED WITH IB

Maximinus	Prusias, Bithyn.	29(I) 13	ANS
Valer.-Gall.	Side, Pamph.	33(I) 14	I-B, <i>Kleinas.</i>
	Tabae, Caria	35/37(I0) 13	ANS

## COINS COUNTERSTAMPED WITH IЄ

Valer.-Gall.	Irenopolis, Cilic.	27/28(3) 14	ANS
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LOUIS C. WEST





## A NOTE ON THE MILIARENSE FROM CONSTANTINE TO HERACLIUS

Many aspects of the new monetary system which was introduced during the early fourth century of the Christian era have remained as obscure today as they were when the modern study of numismatics was first begun. There is as yet no definitive work on the entire subject of fourth century monetary policy which commands universal acceptance among numismatists and historians. Perhaps the closest approach to such acceptance has been granted to the monograph on the silver coinage of the period by the late brilliant Finnish economic historian and numismatist, Gunnar Mickwitz.<sup>1</sup> This short note is not designed to revise that work but rather to present some few modifications.

In the case of the miliarense the problem of exact identification is somewhat difficult because of the nature of the sources. The number of extant notices from antiquity regarding this denomination would normally make for very easy identification, but the conflicting character of these notices and the poor quality of their transmission have caused many of them to serve as complicating factors rather than as aids to a solution. The entire question is further aggravated by the fact that so few of the notices are fixed as to date, and the various authorities differ widely in their datings. But even if it was certain that the date of a specific passage could be found, it would still remain to be determined whether or not the passage described the situation at the time that it was written or at some antecedent period. These are the problems which face the numismatist whenever he handles the nomic glosses, but they are more pronounced in the case of the study of the miliarense because so much of our data is derived

<sup>1</sup> Gunnar Mickwitz, "Die Systeme des römischen Silbergeldes im IV. Jhdt. n. Chr. Ein Beispiel zur Anwendung der variationsstatistischen Methode in der Numismatik," *Societas Scientiarum Fennica (Finska Vetenskaps Societeten) Commentationes Humanarum Literarum*, VI, Abh. 2, cited hereafter as Mickwitz, *Die Systeme*.

from these glosses while the number of notices from other sources is extremely limited.

The miliarensis was a coin of some importance as shown by the fact that by law a special office, the *scrinium a miliarensibus*, was charged with its production.<sup>2</sup> There were other bureaus which were concerned with the production of silver bullion and silver coinage such as the *scrinium ab argento*,<sup>3</sup> but the miliarensis was specifically entrusted to a bureau of its own. Surprisingly enough, however, the first record which we possess of the existence of this important coin is the mention of the bureau in charge of its production in the law cited above. This law was promulgated in 384 A.D.<sup>4</sup> The coin is first mentioned as a piece of money in the last decade of the fourth century, and it only appears as a coin in official imperial records after the year 536 A.D. But even if the literary records of the coin are relatively late there is excellent reason to believe that the domination had been in existence from the reign of Constantine the Great.<sup>5</sup> Silver

<sup>2</sup> Otto Seeck, "Die Münzpolitik Diocletians und seiner Nachfolger," *Zeitschrift für Numismatik*, XVII (1890), p. 60, would prefer to call it something other than a medallion on the basis of this passage in the *Notitia dignitatum occ.*, X, 96 (ed. Seeck, p. 156); *or.*, XII, 30 (ed. Seeck, p. 36). Cf. the lists of bureaus in *C. Just.*, XII, 23, 7, 12, and *C. Theod.*, VI, 30, 7, 12. The latter lists this bureau as the *scrinium ad miliarensia*.

<sup>3</sup> *C. Just.*, XII, 23, 7, 16 (ed. Krueger, *Corpus Iuris Civilis*, II, p. 464) = *C. Theod.*, VI, 30, 7, 16 (ed. Mommsen-Meyer, I, pt. II, p. 297).

<sup>4</sup> Cf. Harold Mattingly, "The Monetary Systems of the Roman Empire from Diocletian to Theodosius I," *Numismatic Chronicle*, 6th ser., VI (1946), p. 115, who points out that all references to the centenionalis and the miliarensis are later than 348 A.D. I know of no references to the miliarensis that are quite that early. Most authorities agree in stating, quite correctly, that the coin, not the bureau, is first mentioned about the year 392 A.D. by St. Epiphanius. For the passage from the writings of St. Epiphanius see Hultsch, *Metrologicorum Scriptorum Reliquiae* (Lipsiae, 1864-66), II, pp. 266ff., hereafter cited as Hultsch, *Scriptores*. Finlay, *Greece Under the Romans* (London, n.d.), p. 427, Appendix on *Roman Money*, points out that the first record of the coin itself in an official document is that contained in *Nov. Just.*, CV, 2, 1 (ed. R. Schoell and G. Kroll, *Corpus Iuris Civilis*, III, p. 503).

<sup>5</sup> Cf. Seeck, "Die Münzpolitik Diocletians und seiner Nachfolger," *Zeitschrift für Numismatik*, XVII (1890), pp. 58-9, who carried the coins of this denomination as far back as the reign of Diocletian. This, however, seems unwarranted. Seeck bases his contention upon an incorrect interpretation of *C. Theod.*, IX, 23, 1; 2 (ed. Mommsen-Meyer, I, pt. II, pp. 475-6), and the fact that the terms miliarensis and centenionalis indicate a decimal system of reckoning. Theodor E. Mommsen, *Histoire de la monnaie romaine*, trans. duc de Blacas

coins of approximately solidus size or even heavier are not overly common, but the series seems to begin during the reign of Constantine.

The importance of the coin has already been alluded to, and the reason for this emphasis on this particular piece of currency which required a separate imperial bureau devoted to its manufacture is not hard to find. The first mention of the coin itself in an official imperial document speaks of the largesses of the consuls and says that these donatives must take the form of "the so-called miliarisia (*sic*), or fruit, or goblets, or squares or other like objects."<sup>6</sup> The miliarense was what Babelon has called a *monnaie de luxe*.<sup>7</sup> Large, well executed silver coins were suitable for largesses, and there is excellent proof of the donative character of such large silver coins or medaillons in a law of 384 which specifically states that no private individual may distribute at the public spectacles a coin of larger size than a sixtieth of a roman pound of silver.<sup>8</sup> The extant types themselves also seem to confirm the use of these large silver pieces for such purposes, for they are devoted in the main to the imperial family or to the glorification of the Roman legions. These are subjects which are particularly suited to coins distributed on public occasions. It would not stretch the imagination too far to believe that some of these pieces were among those which were distributed by the emperor on his accession to the throne. On that occasion the new ruler not only granted the customary five solidi to the soldiers but added a pound of silver as well. Coins received in such ceremonies were probably examined by the recipients with somewhat greater attention than was normally the case and would be more impressive in form. It is also likely that they would be preserved with greater care because of the manner in which they were distributed. The recipient was more apt to treasure coinage that was given to him at a ceremony than the currency which he obtained through the normal channels. The hoards which contain coins of medallion size in general show these coins in a better state of preservation than the smaller denominations.

(Paris, 1873-4), III, pp. 81-2, hereafter cited as Mommsen-Blacas, carries the coin back to the reign of Constantine the Great.

<sup>6</sup> Cf. Mommsen-Blacas, III, p. 77, note 2.

<sup>7</sup> E. Babelon, *Traité des monnaies grecques et romaines* (Paris, 1901), I, pt. I, col. 568, hereafter cited as Babelon, *Traité*.

<sup>8</sup> *C. Theod.*, XV, 9, 1 (ed. Mommsen-Meyer, I, pt. II, p. 825).

9\*

These heavy silver pieces of not less than the weight of the standard gold solidus do not appear to have been issued in sufficient quantity to have comprised a very significant segment of the monetary system from the economic standpoint. References to the miliarenses are very rare in the literature of the period from Constantine to Heraclius. The coins were issued for other than economic reasons, but they could not well have been struck without regard for the underlying premises of Roman monetary policy. Mickwitz has shown quite clearly and conclusively that the monetary system of the early Byzantine period was bimetallic as regards the relationship between gold and silver. That is to say that the coins issued in these two metals were very nearly of full bullion value. There were probably deductions for seignorage and the like, but the coins were theoretically of full bullion value. This relationship between gold and silver which was evident in the case of the small standard silver coin, the *siliqua*, must have been observed in the case of the miliarenses. If the miliarenses was a purely fiduciary piece it would never have been accepted by the populace even as a *monnaie de luxe* while good silver currency in the form of *siliquae* circulated freely. If, on the other hand, the coins were undervalued with respect to the *siliquae*, the government would have suffered a financial loss on each piece struck, an unthinkable proposition, and the recipients of these coins would have melted them down for the bullion immediately after laying their hands on them. With these facts in mind it is possible to proceed to an identification of the miliarenses and to an explanation of the history of that denomination.

There are two distinct phases for the striking of large silver coins in the period from the reign of Constantine to that of Heraclius. In the first of these periods, which covers the entire fourth century, two varieties of heavy silver currency were issued, the pieces of a sixtieth of a pound (5.45 grammes) and those of a seventy-second of a pound (4.55 grammes). After the passage of a law of 384 A.D. stipulating that officials who gave public games might not distribute pieces heavier than a sixtieth of a pound of silver the number of coins of that weight issued fell off very sharply, and quite soon afterwards none were being struck. It should, however, be noted that the relative number of such heavy pieces struck had been declining since shortly

before the mid-century, if one can judge from the extant specimens. The early years of the fifth century presented, in contrast to the earlier period, no issues of heavy silver coinage of either series, and in the latter half of that century, probably no earlier than the reign of Zeno, when the striking of large silver pieces was resumed on a modest scale, only the coins of a seventy-second of a pound were issued. The problem therefore resolves itself into two distinct questions, and the evidence applicable to one period should not be used rashly to support conclusions regarding the other aspect. Identification of the miliarense in the sixth century does not necessarily contribute positive information regarding the miliarense of the fourth century.

The only true bit of literary evidence applicable to the identification of the miliarense is a statement by Cosmas Indicopleustes, a sixth century author, comparing the drachma and the miliarense.<sup>9</sup> Mommsen connected the drachma mentioned in this passage with the Attic drachma via the Sassanid coin of the same denomination. This established the weight of the miliarense in the sixth century at something over four grammes or a seventy-second of a pound of silver.<sup>10</sup> Further, one of the nomic glosses says that the solidus was equivalent to fourteen miliarenses.<sup>11</sup> At a mint ratio of gold to silver of 1:14.4 ( $4.55 \div 14 \times 14.4 = 4.68$  grammes) this would confirm the weight of the miliarense at about a seventy-second of a pound. Theoretically under the conditions cited above the miliarense would be issued at a seventieth of a pound, but in actual fact it would be struck somewhat lighter than that. The mint ratio of 1:14.4 is attested in *C. Just.*, X, 78, 1, and in fact it is the only mint ratio preserved in the literary or legal sources for the entire sixth century. It is true that it is an exact copy of *C. Theod.*, XII, 2, 1, which was issued in 397 A.D., but the fact that it was copied exactly must be weighed against the circumstance that other instances of different mint ratios of gold to silver are extant in the literary and legal sources of the intervening period. The jurists who compiled the *Corpus Iuris Civilis* were free to make such changes in the older laws as were

<sup>9</sup> Cosmas Indicopleustes, XI (ed. Montfaucon, p. 338). δραχμή τοῦτ' ἐστὶ τὸ μιλιαρισίον.

<sup>10</sup> Mommsen-Blacas, III, p. 81, note 3. Cf. Babelon, *Traité*, I, pt. I, col. 273.

<sup>11</sup> Hultsch, *Scriptores*, I, pp. 307-8.

necessary, but in this case there was no reason for a modification. Apparently the older mint ratio was still in force.

According to the nomic gloss cited above the miliarensis received its name because it was one-thousandth of the value of a pound of gold. The date of this particular passage has been the subject of much dispute. Some numismatists such as Evans and Babelon date it as contemporary with the *Novellae* of Justinian.<sup>12</sup> It is, however, most probable that the author of this gloss flourished at some time after the reign of Heraclius, but that his data for the reign of Justinian was quite sound. There is no evidence that the miliarensis was thought to be equivalent to one-thousandth of the value of a pound of gold at any time prior to the sixth century. The texts which refer to such a valuation are all to be dated in the sixth century or even later, and they are intimately associated with the passages which give the value of the miliarensis as a fourteenth of a solidus.<sup>13</sup> Mathematically a coin which was equivalent to one-fourteenth of a solidus would necessarily be valued at 1/1008th of a pound of gold. This figure is sufficiently close to ensure the correctness of the view that when fourteen miliarenses equalled a solidus then each individual silver piece was accounted as one-thousandth of the value of a pound of gold.

Yet another nomic gloss states that the follis or bag of silver containing 125 miliarenses equalled 218 carats (*siliquae*) and nine nummi, which "at the present value" (i.e. the period at which the glossator lived) would be equivalent to 109 miliarenses and nine nummi.<sup>14</sup> If this passage is taken in conjunction with the others and the miliarensis was valued at  $1\frac{3}{4}$  *siliquae*, then 218 *siliquae* would be equal to

<sup>12</sup> A. Evans, "Notes on Coinage and Silver Currency in Roman Britain from Valentinian I to Constantine III," *Numismatic Chronicle*, 4th ser., XV (1915), p. 463, note 34; Babelon, *Traité*, I, pt. I, cols. 568-9. Cf. Mickwitz, *Die Systeme*, p. 31. Mommsen-Blacas, III, p. 82, note 2, holds that the author of these glosses lived after the reign of Heraclius, but that he had at his disposal the best works of the age of Justinian. Benno Hilliger, "Der Pseudoantoninianus Aurelianus und die Münzreform Diocletians," *Deutsches Jahrbuch für Numismatik*, II (1939), pp. 102-3, 109, claims that they date from the Constantinian period. That is impossible in view of Hultsch, *Scriptores*, I, p. 308, l. 7, which refers to Theodosius the younger. Hultsch dates these glosses in the Byzantine period.

<sup>13</sup> Hultsch, *Scriptores*, I, p. 307. *Ibid.*, I, p. 309, gives the value of the miliarensis as  $1\frac{3}{4}$  carats which is approximately the same thing.

<sup>14</sup> *Ibid.*, I, p. 309. Cf. Mommsen-Blacas, III, p. 162, note 2.

124 $\frac{1}{2}$  miliarenses. If, however, the miliarenses were equal to two siliquae, as is known to have been the case after the Heraclian silver reform, there would be 109 coins. In this second instance the nine nummi cancel out, and a round figure results. Clearly this nomic gloss is post-Heraclian in date, but it refers to an earlier period, probably the sixth century. The passage itself seems to indicate that the miliarenses during this earlier period was equal to twenty-one nummi, which seems low, or 1 $\frac{3}{4}$  siliquae, and it also confirms the fact that during the Heraclian reform its value was increased as well as its weight.<sup>15</sup> One siliqua would, according to this passage, be equal to twelve nummi, and the solidus would be equal to 288 nummi. Perhaps not too much importance should be attributed to the reckoning that involves the number of nummi to the siliqua until it can be understood in the light of all of the evidence regarding that vexing problem, but that calculation involving the number of siliquae to the miliarenses and consequently all relations between the miliarenses and the individual gold coins is quite certain.

All of the evidence therefore confirms that the heavy silver coin of a seventy-second of a pound which was struck in the latter part of the fifth century and continued to be issued until the Heraclian silver reform was clearly the miliarenses. It was valued as one-thousandth of the pound of gold, and fourteen miliarenses were equal to one solidus.

But if all of this was true in the sixth century was it also true during the fourth century when there were heavy silver issues of a sixtieth of a pound as well as of a seventy-second of a pound? This question must be considered in the light of different evidence. Three definitions or etymologies are given for the term *miliarenses*. The first in point of time is that of St. Epiphanius of Cyprus, an author of the latter part of the fourth century, who derived the name of the coin from the fact that it was originally given as a largess to the soldiers and hence was called *militarensia*.<sup>16</sup> This, however, is the only instance from the

<sup>15</sup> For the references to the primary sources which indicate this see Babelon, *Traité*, I, pt. I, col. 572, note 1; Louis Blancard, "Un millarès d'Arcadius. Étude sur le millarès de Constantin à Héraclius," *Revue numismatique*, 3<sup>e</sup> sér., VI (1888), p. 421; Mickwitz, *Die Systeme*, p. 29, note 1.

<sup>16</sup> Hultsch, *Scriptores*, I, pp. 266, 269. See the early mediaeval Latin translation, *Ibid.*, II, p. 105, where the term *militarensia* occurs.



fourth century which indicates such an etymology. John Lydus, a sixth century writer, repeats it and goes on to state that the coin came into existence as a donative during the Hannibalic War.<sup>17</sup> Obviously this is a mythical explanation for the term. The form *militarensia* is not known independently of this etymology, but the very fact that St. Epiphanius could propose an explanation of that type indicates that the term was of considerable age during his lifetime. The true origins of the word had already been lost.

John Lydus in addition to repeating an etymology which he had evidently derived from the writings of St. Epiphanius also quotes another early metrologist, Dardanius.<sup>18</sup> According to Hultsch, Dardanius lived at the end of the fourth century or the beginning of the fifth, and thus he would be a contemporary of St. Epiphanius.<sup>19</sup> Dardanius says that the miliarensis was so-called because it contained 1,000 obols. This view never seems to have achieved currency, but it is the converse of what we have already learned regarding the miliarensis of the sixth century from the nomic glosses. It also has a ring of great plausibility about it. It appears likely from a study of all of the relevant passages that in its origin the term signified a coin that contained 1,000 units. This view has achieved support among the many scholars who have collected and studied the pertinent passages.<sup>20</sup> As Mattingly has suggested, it would not be difficult to accept the view that the miliarensis was one of the coins which com-

<sup>17</sup> John Lydus, *De Mensibus* (ed. Bonn, p. 56). Cedrenus, *Historiarum Compendium* (ed. Bonn, I, p. 296), gives the same etymology. The nomic glosses (Hultsch, *Scriptores*, I, p. 307, ll. 18-19; p. 308, ll. 23-4) also give this etymology.

<sup>18</sup> For the form of the name see Hultsch, *Scriptores*, II, p. 23.

<sup>19</sup> *Idem.* Seeck, "Die Münzpolitik Diocletians und seiner Nachfolger," *Zeitschrift für Numismatik*, XVII (1890), p. 82, dates Dardanius as a slightly older contemporary of John Lydus and applies what Dardanius wrote to the period of Anastasius. Hultsch is probably more accurate.

<sup>20</sup> Mattingly, "The Monetary Systems of the Roman Empire from Diocletian to Theodosius I," *Numismatic Chronicle*, 6th ser., VI (1946), pp. 115-6. The relevant passages are discussed by Babelon, *Traité*, I, pt. I, col. 567. Cf. Blancard, "Un millarès d'Arcadius. Étude sur le millarès de Constantin à Héraclius," *Revue numismatique*, 3<sup>e</sup> sér., VI (1888), pp. 29-30; Mommsen-Blacas, III, p. 81; J. Sabatier, *Description générale des monnaies byzantines* (Paris, 1862), I, pp. 60-1; A. Segrè, "Inflation and Its Implication in Early Byzantine Times," *Byzantion*, XV (1940-41), p. 271, note 90; G. Dattari, "Del Miliarensis e della Siliqua nell' Epoca Costantiniana," *Rivista Italiana di Numismatica*, XXXI (1918), pp. 221 ff.

memorated the 1,100th anniversary of the City and that it was valued at ten centenionales. Perhaps it had no name other than one indicating its value prior to that date. Certainly these coins were not issued for the first time in 348 A.D.

There is no evidence that during the entire period prior to the reign of Heraclius the miliarense was ever valued at more than  $1\frac{3}{4}$  siliquae. There is also no evidence that the miliarense prior to the date of the nomic glosses was ever accounted as one-thousandth of a pound of gold, but there is also no reason to deny that such was the case. It is not illogical to presume that since the gold coinage was the basis of the Roman monetary system, and silver coinage was inextricably bound to it by the fact that twenty-four siliquae were always equivalent to a solidus, that the relationship between the solidus and a constant number of miliarenses was also fixed. On the other hand, there is clear evidence that the mint ratio of gold to silver did change during the course of the fourth century. Under these conditions the weight of the miliarense must have changed whenever the mint ratio between gold and silver changed. Only two mint ratios are clearly attested for the fourth century. During the early years of the century the mint ratio according to a well known papyrus, SB 6086, was 1:18. At that mint ratio the miliarense which equalled  $1\frac{3}{4}$  carats would have had a theoretical weight a fifty-seventh of a pound. In actual fact it would be struck somewhat lighter than that, and an actual weight of a sixtieth of a pound would seem to fit the circumstances. In the latter part of the century the mint ratio was clearly 1:14.4 as shown by the text of *C. Theod.*, XIII, 2, 1, which was promulgated in 397. This mint ratio, however, antedates the issuance of that constitution as shown by P. Oslo 162 which indicates exactly the same relationship between gold and silver, but which is probably to be placed somewhat earlier in the century. At the new mint ratio, as has been said with reference to the miliarense of the sixth century, the weight of the miliarense would have been theoretically a seventieth of a pound, but since the actual coins would be issued at a somewhat lighter standard, a weight of a seventy-second of a pound is not unacceptable. In this connection it is interesting to note that the heavier silver pieces, those of one-sixtieth of a pound in weight, are much more common for the period which

includes the reigns of Constantine and Constantius II than later. During the latter part of the reign of Constantius II there was a change in the mint ratio which was reflected in the weights of the siliquae. This change must have been effective in the case of the miliarenses as well. In this connection it should be noted, though this is an *argumentum ex silentio* and therefore not one to which a great deal of weight can be assigned, that the law of 384 which has already been cited and which mentions coins of a sixtieth of a pound does not refer to these heavy silver pieces as miliarenses.

The fact remains, however, that throughout the entire fourth century coins of both weights, a sixtieth of a pound and a seventy-second of a pound, were issued even though the relative numbers of coins of each series seems to have varied with the mint ratio. Clearly both series of coins must have fitted into the monetary system no matter which one was denominated as the miliarenses. This can be found to be true if a careful examination of the weights in relation to the mint ratio is made. When the mint ratio was established at 1:18 during the first quarter of the fourth century then the solidus must have been equivalent to fourteen of the silver coins of a sixtieth of a pound, and these pieces were the miliarenses. At the same time the solidus would have been equal to eighteen of the coins which were struck at an actual weight of a seventy-second of a pound. Thus each one of these lighter silver coins would be equivalent to  $1\frac{1}{3}$  siliquae, but if the calculation is made on the basis of a theoretical weight of a seventieth of a pound for these coins, then their value must be adjusted to  $1\frac{1}{2}$  siliquae. In either case they would have fitted nicely into the monetary system, and the government would have made a small profit on their manufacture. When in the latter half of the fourth century the mint ratio was 1:14.4 and the coins of a seventy-second of a pound were considered the miliarenses, the heavier silver pieces must have been considered as equal to two siliquae. At such a valuation, however, they would have been slightly overweight, and the imperial government would have lost money by issuing them. When such overweight coins entered the channels of trade they would have been taken from circulation and melted down or hoarded for their bullion value. The result was that the government very shortly ceased to issue such pieces in any quantity.

The thesis proposed in this paper accords with the facts as they are known, but it depends upon the assumption that the value of the miliarense relative to the gold solidus remained unchanged in the period from Constantine to Heraclius. This is certainly a likely premise in the light of what is known regarding the connection between gold and silver in early Byzantine times. This thesis can therefore serve to explain the relative quantity of heavy silver pieces struck during the first half of the century and the sharp decline in the number issued after the reign of Constantius II. The relationship between the two varieties of heavy silver pieces is also manifest. The thesis also explains the reference to pieces of a sixtieth of a pound in the law of 384. It cannot, however, be used to explain the entire complex history of silver coinage in the period from Constantine to Heraclius, because it must always be remembered that the heavy silver coins formed only a very small fraction of the currency and were not a vital part of the monetary system.

HOWARD L. ADELSON



## A HOARD OF RHENISH SCHÜSSELPFENNIGE

(SEE PLATE XX)

Through the courtesy of Mr. A. Kosoff of Encino, California, the writer has had the opportunity to record and study a hoard of 1387 Rhenish scyphate pennies or "Schüsselpfennige." The hoard also contained 30 rather worn "Händelheller" of the last issue of this type struck at Frankfurt-on-Main. Unfortunately it has been impossible to ascertain the spot where these coins were unearthed. However, in view of the preponderance of Palatinate pennies in the hoard, amounting to no less than 620 of the classified pieces, it is fairly reasonable to assume that the hoard must have been buried somewhere in the Palatinate. The date of its discovery is also a matter of conjecture. The coins were contained in rather worn envelopes carrying the name of Charles Dupriez, a well-known coin dealer in Brussels, who attempted a classification of the hoard. One envelope was marked "800 bractéates à classer." The hoard must have been discovered a few decades ago, probably between the first and second World War.

The date of burial of the hoard must be between 1574 and 1580. This conclusion is supported by the fact that pennies of the following mint-privileged princes are lacking in the hoard: Georg, bishop of Worms after 1580; Wolfgang, archbishop of Mainz after 1582, and Georg Gustav of the Palatinate after 1592. The latest penny in the hoard is dated 1574.

Whether the 1387 pennies represent the hoard in its entirety is not absolutely certain but very probable because of their negligible commercial value. This penny coinage reached its zenith in 1574. Most of the types in the hoard are to be found in another hoard, namely the "Nordpfälzischer Pfennigfund," published by E. Heuser in *Mitteilungen der Bayrischen Numismatischen Gesellschaft*, 1927, page 91. This hoard, buried during the first decade of the seventeenth century, contained about 600 pennies. As the contents of this hoard is very similar to ours it is convenient to follow Heuser's arrangement,

particularly as the present hoard does not contain any varieties hitherto unknown. Other hoards, such as that of Mühlhausen<sup>1</sup> with 1100 pennies and the Mutterstadt hoard<sup>2</sup> with over 3000 pennies, show that these scyphate pennies were the dominating small change in the Palatinate for at least fifty years. They drove the heller coinage out of circulation.

The best preserved specimen of each of the 28 types are illustrated on PLATE XX. The state of preservation of the coins on the average, even considering the usual fabric and wear resulting from extended circulation of Schüsselpfennige in general, can only be called fair.

With regard to the metrology of these pennies it appears impossible to draw any useful conclusions. The individual weights of the twenty-eight types in the hoard range from 0.17 grams for the Cologne piece up to 0.43 grams for the penny from Friedberg. The average weight is 0.25 grams.

In addition to the aforementioned hoards reference is made in the descriptions to the following books and articles:

- Schrötter, Friedrich Freiherr von, *Die Münzen von Trier, Zweiter Teil, Beschreibung der neuzeitlichen Münzen 1556 bis 1794* (Bonn, 1908).
- Harster, W., *Versuch einer Speierer Münzgeschichte* (Speier, 1882).
- Joseph, Paul, *Die Münzen von Worms* (Darmstadt, 1906).
- Noss, Alfred, *Die Pfälzischen Münzen des Hauses Wittelsbach, IV. Band: Palatinate-Veldenz* (Munich 1938).
- Lejeune, Ernst, "Die Münzen der reichsunmittelbaren Burg Friedberg in der Wetterau," in *Berliner Münzblätter*, 1903-1905.
- Noss, Alfred, *Die Münzen von Trier* (Bonn, 1916).

#### CONTENTS OF THE HOARD

- |   | Number of pieces |
|---|------------------|
| 1. COLOGNE. <i>Hermann von Wied</i> , 1515-1546. Gothic H on top of quartered shield of the Rhenish monetary union. Nordpfalz hoard 2. 0,2 grams. | 4                |

<sup>1</sup> Peter Berghaus, "Der Schlüsselpfennigfund von Mühlhausen", in *Hamburger Beiträge zur Numismatik* 1927, II, page 337.

<sup>2</sup> Ernst Heuser, "Der Fund von Mutterstadt", in *Mitteilungen der Bayerischen Numismatischen Gesellschaft*, 1927, XLV, page 42.

Number of pieces

2. MAINZ. *Albrecht*, 1514-1545. Gothic A on top of split shield of Mainz and the Palatinate. Nordpfalz 5-7. 0.23 grams. 15
3. *Dietrich II von Isenburg*, 1459-1461. Split shield, wheel and lion. Not in Nordpfalz. Mühlhausen 4. Mutterstadt 29. 0.2 grams. 2
4. *Daniel Brendel von Homburg*, 1555-1582. D on top of quartered shield with arms of Mainz and the Homburg family. Possibly struck in 1569. Nordpfalz 8. 0.26 grams. 2
- 4a. Indisinct pennies with quartered shield. 0.26 grams. 7
5. TRIER. *Richard*, 1511-1531. R on top of quartered shield with the arms of Trier, Mainz, Palatinate and Cologne. Not in Nordpfalz. Mühlhausen 12. 0.23 grams. 11
6. *Jakob von Eltz*, 1567-1581. I on top of split shield. Dated 1570 and undated. Nordpfalz 14. Von Schroetter, Trier 39-43. 0.29 grams. 14
7. SPEYER. *Marquard*, 1560-1581.
  - a) Undated with M over quartered shield. Nordpfalz 23. Harster 103. 0.29 grams 89
  - b) 1573 similar to the preceding. Nordpfalz 24. Harster 102. 0.26 grams. 4
8. WORMS. *Theodor von Bettendorf*, 1552-1580.
  - a) Undated with D on top of quartered shield. Not in Nordpfalz. Joseph, Worms 255. 0.3 grams. 1
  - b) Undated with T on top of quatered shield. Nordpfalz 26. Joseph 256. 0.2 grams. 1
  - c) 1572, as b. Nordpfalz 27. Joseph 257. 0.2 grams. 1
  - d) 1573, as b. Nordpfalz 28. Joseph 258. 0.32 grams. 4
  - e) 1574, as b. Nordpfalz 29. Joseph 259. 0.27 grams. 4
  - In addition, lot of b, c, d & e. 0.29 grams. 55
9. HESSE-CASSEL. *Philip*, 1509-1567. Undated with P over round, quartered shield, Ziegenhain shield in the center. Nordpfalz 35. 0.2 grams. 5
10. JÜLICH-BERG. *Johann III*, 1511-1539. Undated with I on top of a round, quartered shield. Nordpfalz 40. Mutterstadt 252 sq. 0.22 grams. 4
11. PALATINATE. *Philip*, 1476-1508. Undated with P on top of split shield of the Palatinate and Mainz. Mühlhausen 2. Mutterstadt 5-20. 0.24 grams. 15
12. *Ludwig V*, 1508-1544. Undated with L on top of split shield of the Palatinate and Mainz. Mühlhausen 3. Mutterstadt 21-26. 0.24 grams. 8
13. *Friedrich III*, 1559-1576. Undated with F on top of shield of the Palatinate, Bavaria and the electorate (orb). Nordpfalz 47 as *Friedrich IV*, 1583-1610. Catalogue Kirsch, Cahn 1912 #2605. 0.18 grams. 1



	Number of pieces
14. PALATINATE-SIMMERN. <i>Johann II</i> , 1509-1557. Undated with I on top of split shield of the Palatinate and Bavaria. Nordpfalz 48. 0.26 grams.	15
15. <i>Georg</i> , 1557-1569. Undated with G on top of split shield of the Palatinate and Bavaria. Not in Nordpfalz. Auction catalogue Joseph 2437. 0.27 grams.	4
16. <i>Richard</i> , 1569-1598. Undated with R on top of shield of the Palatinate and Bavaria. Nordpfalz 49. 0.3 grams.	61
Also with illegible letters of the type 14-16. 0.33 grams.	58
17. PALATINATE-ZWEIBRÜCKEN. <i>Wolfgang</i> , 1532-1569. Undated with W on top of 3 shields. Nordpfalz 51. 0.31 grams.	31
18. <i>Johann</i> , 1569-1604. Undated with I on top of 3 shields as on the preceding. Nordpfalz 53-55. 0.28 grams.	35
19. PALATINATE-VELDENZ. <i>Georg Hans</i> , 1544-1592.	
a) 1570 with GHP on top of shield with 5 quarters. Noss, Veldenz 18. Auction catalogue Joseph 2539. 0.26 grams.	7
b) Same as the preceding but undated. Nordpfalz 64. Noss 19/25. Auction catalogue Joseph 2538. 0.27 grams.	370
c) Same as the preceding, without date, but GHP over the point of the shield. Nordpfalz 63. Noss 35-36. Auction catalogue Joseph 2537. 0.3 grams.	15
20. FRIEDBERG. <i>Johann Brendel of Hamburg</i> , 1532-1569, or <i>Heinrich II</i> , 1570-1577. Undated with BF on top of quartered shield. Nordpfalz 74-75. Lejeune 1. Auction catalogue Joseph 948. 0.29 grams.	48
21. STOLBERG-KÖNIGSTEIN. <i>Ludwig</i> , 1535-1574.	
a) Undated with quartered shield. Nordpfalz 85. Auction catalogue Joseph 6899. 0.29 grams.	46
b) 1573. Not in Nordpfalz. Not in Friedrich. 0.27 grams.	1
c) 1574. Friedrich 598. 0.29 grams.	2
22. Undated with V for Ursel mint. Nordpfalz 87. 0.27 grams.	34
23. Undated with K for Königstein mint. Nordpfalz 89. 0.26 grams.	112
24. Undated with W for Wertheim mint. Nordpfalz 91. 0.28 grams.	73
25. Same as the preceding but dated 1570. Friedrich 581. Not in Nordpfalz. 0.25 grams.	1
26. WALDECK. <i>Philip IV</i> , 1512-1574. 1570 with W over arms with eight-pointed star. Nordpfalz 92. Auction catalogue Joseph 6052. 0.27 grams.	6
27. COLOGNE, city. Undated with quartered shield, struck after 1511. Nordpfalz 103-105. 0.23 grams.	9
28. WORMS, city. Type: City shield with W on top.	
a) Undated. Nordpfalz 111. Joseph 298. 0.27 grams.	17
b) 1569. Not in Nordpfalz. Joseph 305. 0.3 grams.	7

	Number of pieces
c) 1570. Nordpfalz 112. Joseph 307. 0.3 grams.	13
d) 1572. Not in Nordpfalz. Joseph 309. 0.25 grams.	1
29. FRANKFURT-on-MAIN. Worn "Händelheller" of the 16th century. Hand with letters. Rev. Moline in quatrefoil. Not in the Nordpfalz hoard; therefore it must be presumed that these Händelheller" had disappeared from circulation in 1610.	34
Unattributable because of poor preservation.	107

HENRY GRUNTHAL



## SOME GERMAN COUNTERSTAMPS OF THE LATE SEVENTEENTH CENTURY AND THE STANDARD OF THE LEIPZIG CONVENTION

(SEE PLATE XXI)

In 1955 the American Numismatic Society acquired a guldiner of August Frederick, Bishop of Lübeck with two counterstamps (PLATE XXI, 1). One is a counterstamp showing the three crowns, the arms of the city of Cologne and the figure 48 indicating the value of 48 Albus; the other shows a lion rampant to the left, the arms of the Duchy of Jülich.<sup>1</sup> The date is partly obliterated, but appears to be 1688, and the design of the coin shows it is Lange no. 508a.<sup>2</sup> At about the same time the writer acquired a guldiner of Henneberg of 1692, with two counterstamps (PLATE XXI, 2), one being that of the Franconian Circle and the other an oval with the monogram COLN in script.

This may serve as a convenient occasion to publish several other counterstamped pieces of the period that are in the collections of the American Numismatic Society and the writer, and to examine the monetary significance of these various counterstamps, their history, and their relation to one another.

1. As is well known in the latter part of the seventeenth century the Holy Roman Empire experienced a monetary inflation that upset the relative stability which, based on the Imperial Laws of 1559/1566, had reigned for a century with but for one brief, if violent, interruption at the start of the Thirty Years War.

Unlike that earlier inflation which had consisted largely in the flooding of the Empire with debased minor coinage, this later inflation consisted chiefly of the excessive coinage of gulden or guldiner which claimed to be equal in silver content to two thirds of a

<sup>1</sup> It was erroneously described as a counterstamp of Holland in the *Proceedings of the American Numismatic Society* 1956, p. 25.

<sup>2</sup> Lange, I, p. 205.

Reichstaler, but which in reality were not. This naturally created great confusion and distress among the population, particularly with the poorer classes which were quite helpless when paid in these debased coins.

As contemporary sources show, published tariffs did not prove to be of much help and so various of the Estates of the Empire proceeded to counterstamping, notably the Franconian and Westphalian Circles, the Elector Palatine for his Duchies of Jülich and Berg, the Archbishops of Cologne and Salzburg, the Landgraves of Hesse-Cassel, the Counts of Hanau and Schaumburg-Lippe, and the Cities of Aachen Cologne, Hildesheim, Strassburg, and possibly Lindau.<sup>1</sup>

2. It would be erroneous, however, to regard all these counterstampings as being of the same nature or significance. One of the decisive events in the monetary history of the Empire falls within this period and the stamps affixed before this event have different significance from those affixed later. This event was the Convention (or Recess) of Leipzig which was concluded on Jan. 16, (old style) 1690, between the Electors of Brandenburg and Saxony and the Guelphic Dukes of Brunswick.

The Leipzig Convention increased the number of "talers" to be coined out of the fine Cologne mark of silver from nine to twelve, i.e., it reduced the silver value of the "taler" by one quarter from that of the old Reichstaler of the Imperial standard. On the other hand the Convention did not attempt to replace or abolish the old Imperial standard (which legally it could, of course, not do), but by its own terms was only a provisional measure until the old standard could be restored. Thus, it did not provide for the issuance of talers on the new reduced standard, but only of  $\frac{2}{3}$  and  $\frac{1}{3}$  taler pieces which, of course, in terms of the Imperial standard were in reality worth only  $\frac{1}{2}$  and  $\frac{1}{4}$  talers respectively.

These pieces were called guldiner and half guldiner and as a gulden or guldiner had long since become to mean a unit comprising 60

<sup>1</sup> The counterstamp of Hamburg which is found, e.g., on a guldiner of Ernst August of Brunswick (Fiala 2420) or the city of Hildesheim (Friederich no. 144) is of a later date as evidenced by the initials O.H.K. appearing on it. Otto Heinrich Knorre became mintmaster in Hamburg only in 1761 (Gaedecheus II, p. 201).

kreuzers (or a fixed amount of such other minor coins as were current in a particular part of the Empire) it followed necessarily that the old Reichstaler which continued to be coined acquired a value of 120 kreuzers or two gulden, and the same was *mutatis mutandis* true where money was not reckoned in kreuzers. Mostly the effects of the Leipzig Convention are expressed in that form in contemporary documents, which hardly ever say that the new "Leipzig" guldiner are worth only 45 kreuzers.

As it turned out the old Imperial Standard was never restored to general use and the Austro-Bavarian Convention of 1753, which was accepted by a large part of the Empire, officially adopted the taler of 120 kreuzer, or two gulden, albeit on a standard even lighter than that of the Leipzig Convention.

3. The Leipzig Convention was, indeed, not the first nor only attempt to put an end to the progressive debasement of the coinage in the late seventeenth century, but it is distinguished by the fact that it succeeded where everything else had failed, including the earlier Convention of Zinna between the same participants.

Chief among the reasons for its success was the fact that the partners to the Leipzig Convention were not only the dominating princes of their circles (the Upper Saxon and Lower Saxon) and in control of the important silver mines of the region, but also that they finally recognized that the bad money could be replaced by good—or at any rate better—money only if the latter were made available in sufficient quantities, if the standard were low enough not to encourage the immediate melting down of the new money, and if the production of bad money were rigorously suppressed. All this they bound themselves to do by the Leipzig Recess and as a consequence the guldiner and to a very much lesser degree the half guldiner of the Leipzig standard soon became one of the dominant larger coins of the Holy Roman Empire.

4. The German counterstamps of the late seventeenth century thus fall into two totally different classes. Those affixed after 1690, all have, as we shall see, some connection with the Leipzig standard, whereas the earlier ones, of course, cannot have this significance. Two of them we may, in fact, disregard entirely for the purposes of this discussion, namely those of Salzburg and Strassburg. The

Salzburg stamp, which was used in 1681, was designed to distinguish all foreign coins current in the Archbishopric at that time and to permit them to the exclusion of all others to continue to circulate. It failed for various obvious reasons<sup>1</sup> and the fact that the coins were counterstamped without any examination of their intrinsic value and simply because they were there eliminates the possibility of drawing any conclusions from the presence of this stamp on a coin, except that the coin was actually in Salzburg in 1681. The Strassburg counterstamp also dates from 1681, and while it has monetary significance it was affixed only after the city had been occupied by Louis XIV and represents, in effect, a first step in subjecting the city to the French monetary system.<sup>2</sup> It has no direct bearing on monetary development in the Empire.

5. A careful examination of the remaining counterstamps, their history, and the undertypes known with them may shed some light on their dates and the intrinsic value of the undertypes themselves. As we shall see, the purpose of all except one of them was the elimination from circulation of guldiner of less than the Leipzig standard, i.e., guldiner that contained less than 12.992g. of silver. This purpose could be accomplished in three different ways. It was possible to stamp all the good guldiner and then call all unstamped ones in. It was also possible to stamp all bad one and then call them in. And finally it was possible to stamp all guldiner with their actual value and call them in gradually. All three methods were actually used. None was used, however, to anything like the full extent possible. But they were successful.

6. Considering that the Empire never went back to a higher standard than that of Leipzig, it is only natural that the vast majority of the surviving counterstamped guldiner bear one of the stamps that proclaim them to be of the full value of the Leipzig standard.

a) By far the most common among these is that of the Franconian Circle. It consists of an upright oval wherein the monogram F C (= Circulus Franconicus) and above the monogram the figure 60 (indicating the value in "new" kreuzer) and a letter for the mint that did the counterstamping, usually an N for Nuremberg.

<sup>1</sup> Schöttle, pp. 45 f.

<sup>2</sup> Schöttle, pp. 44 f.

The history of this counterstamp can be found in *Museum Notes*<sup>1</sup> and literature quoted there.<sup>2</sup> Very briefly the stamping started in the last days of 1693, and continued into 1695, and possibly 1696. The stamp was to be placed exclusively on guldiner (not on half guldiner) worth 45 kreuzer of the old Imperial standard<sup>3</sup> which is equivalent to saying that they must have had the full value of the Leipzig standard. Such guldiner had previously been listed in Schedule I of the Tariff of the Three Corresponding Circles attached to the Recess of the Assay Meeting dated Oct. 9/19, 1693<sup>4</sup> and in the Memorandum and additional Schedule of the City of Nuremberg dated Dec. 19, 1693.<sup>5</sup> In addition, guldiner which upon assay were found to be of the full Leipzig standard, but were not contained in either of these schedules were also permitted to be stamped.<sup>6</sup> A complete list of all the undertypes which the writer then knew to exist with the counterstamp of the Franconian Circle was published in *Museum Notes*.<sup>7</sup> Since that time additional undertypes have been found. There are doubtless still further ones since it is all but impossible to collect completely this extremely elusive material.

The additions to the listing in *Museum Notes* III follow:

Anhalt-Dessau: *Johann Georg II* 1674, Bust/Arms (on Mann 882a) Munich Cabinet.

Anhalt-Jever: *Carl Wilhelm* 1690, Helmet/Monogram (on Mann 397) Vienna Cabinet.

Brandenburg (Electorate) for Cleve: *Friedrich III* 1693, Bust/Arms Henckel no. 4958.

Brandenburg-Ansbach: *Johann Friedrich* 1679, Bust/Cross and Balance on Altar (on Weise 1021) Royal Coin Cabinet Stockholm.

Emden: 1689, Double Eagle/City Arms (on Weise 2244.5), writer's collection (PLATE XXI, 3).

Friedberg: *Eitel Diede* 1674, Double Eagle/Knight (on Weise 1616) Munich Cabinet.

Hanau: *Philipp Reinhard* 1691, Bust/Arms (on Suchier 673) Munich Cabinet.

<sup>1</sup> Vol. III, pp. 67 ff.

<sup>2</sup> L. c., p. 78.

<sup>3</sup> L. c., p. 73.

<sup>4</sup> L. c., p. 82, "Appendix B", the Tariff with illustrations is reprinted in Lucius II, pp. 161 ff.

<sup>5</sup> L. c., p. 75, p. 85, "Appendix C."

<sup>6</sup> L. c., p. 77.

<sup>7</sup> III, p. 79, "Appendix A."



- Mainz: *Anselm Franz* 1690, Bust/Arms, Heerdt Coll. no. 458.  
 Montfort: *Johann VIII* 1678, Bust/Arms (on Ebner 108) Frey Sale March 15, 1956, no. 312 ex Königshofen Hoard.  
 Oldenburg: *Christian V* of Denmark 1690, Arms/Value, Riechmann Sale Oct. 28, 1924, no. 134.  
 Reuss: (Younger Line) *Heinrich I* 1678, Bust/Hand from Clouds, Sword and Balance (on Schmidt & Knab 501) writer's collection<sup>1</sup> (PLATE XXI, 4).  
 Saxony-Eisenberg: *Christian* 1692, Bust/Arms (on Weise 1493) Munich Cabinet.  
 Schwarzburg-Sondershausen: *Anton Günther* 1678, Bust/Arms (on Fischer 373) Munich Cabinet.  
 Solms-Hohensolms: *Ludwig* without date, Bust/Inscription in wreath (on Joseph 285) writer's collection (PLATE XXI, 5).  
 Swedish Pomerania: *Charles XI* 1689, Bust/Arms Royal Coin Cabinet Stockholm 1692, Bust/Arms writer's collection (PLATE XXI, 6).

All these guldiner except the one of Hanau appear in Schedule I of the Tariff of the Three Circles,<sup>2</sup> if due allowance is made for the fact that it was not meant to be precise as far as dates are concerned. It normally illustrates only one date of any particular design, but this is usually meant to stand for other dates of the same design as well.<sup>3</sup>

<sup>1</sup> There is also a similar guldiner listed in Schmidt & Knab with the counterstamp (no. 503) which was erroneously omitted in the earlier listing ("Appendix A.")

Unfortunately this listing contained quite a few other misprints which make necessary the following corrections:

The guldiner of Leiningen-Westerburg in "Appendix A" is dated 1676, and the correct reference is Joseph 81 c.e.

The guldiner of Magdeburg (City) of 1675, which is listed in Tariff I of the Three Circles was omitted in "Appendix B."

There is no guldiner of Oldenburg of 1676, in Tariff I of the Three Circles and the guldiner of 1690, is erroneously ascribed in "Appendix B" to Anton Günther who died in 1667. After his death the succession in Oldenburg was contested and the guldiner of 1690, bears no title whatever. In fact, however, the sovereignty over the county had been assumed by King Christian V of Denmark representing the elder line of the House of Oldenburg. The guldiner of Sulz bears the date of 1675, the third guldiner of Anhalt-Dessau that of 1693, the guldiner of Dortmund that of 1688, and that of Emden in some of the editions of the Tariff that of 1689.

<sup>2</sup> *Museum Notes* III, p. 82.

<sup>3</sup> *Museums Notes* III, p. 76, see also below p. 169.

The guldiner of Hanau of 1691, does not appear in any Tariff of the Three Circles nor in any of the other tariffs quoted on the Schedule attached to this article—not even on that of Frankfurt which is only a few miles distant from Hanau. In this connection it must be recalled that the earlier listing<sup>1</sup> shows a guldiner of Hanau of 1693, with the Franconian counterstamp which does not appear in the Tariff of the Three Circles either. Suchier,<sup>2</sup> however, informs us that Hanau had adopted the standard of the Leipzig Convention which confirms that the Franconian counterstamp was rightly placed on these coins.

Mention must finally be made of a guldiner of the City of Cologne of 1700, with an indistinct counterstamp that appeared as no. 191 in the Cahn Sale of Feb. 26, 1931, where it was sold to Mr. Pieper, and then again as no. 233 in the sale of the Pieper Collection by Cahn on Feb. 25, 1935. In both catalogues the stamp was read as a monogram of the letters C and P and tentatively assigned to the Palatinate. No such Palatine counterstamp is otherwise known and the monogram C P does not seem to fit the Palatine Electorate too well. I would submit that the monogram might be C F and that the counterstamp might be that of the Franconian Circle. The year 1700 would, of course be too late for that counterstamp, but we know that many of the Cologne guldiner of 1700, were overstruck on earlier guldiner of other Estates that had the full value of the Leipzig Convention<sup>3</sup> and some of which no doubt bore the counterstamp of the Franconian Circle before they were overstruck. This would also account for the indistinctness of the countermark on the piece in question. Also as we will see below there are even guldiner of the City of Cologne of 1700, with the COLN countermark which would be extremely hard to explain by any other theory than the one advanced here.

b) The next most frequent counterstamp for guldiner of the full Leipzig standard is the one commonly called that of the city of Cologne. It shows a monogram composed of the letters COLN in script in a transverse oval. A list of undertypes appears in Noss,<sup>4</sup> but while

<sup>1</sup> *Museum Notes* III, p. 79, discussed there p. 77.

<sup>2</sup> P. 105.

<sup>3</sup> Noss, *Cologne*, p. 266

<sup>4</sup> L. c., p. 252.

it segregates the pieces according to the size of the counterstamp used which is not relevant in the present context it is not complete insofar as undertypes are concerned. Mr. Henry Grunthal of the American Numismatic Society has compiled an additional list from sales catalogues and literature and further pieces have been added through additional research. All this has produced the following list which doubtless is still incomplete:

- Anhalt-Harzgerode: *Wilhelm* 1677, Bust/Arms, Noss no. 514.  
 Anhalt-Zerbst: *Carl Wilhelm* 1676, Bust/Arms, Mann no. 250gg.  
     1678, Bust/Arms, ANS Coll. Mann no. 252 mm & pp.  
 Brandenburg-Ansbach: *Johann Friedrich* 1675, Bust/Arms (on Weise 1019) ANS Coll. (PLATE XXI, 7).<sup>1</sup>  
 Emden: 1687, Double Eagle/Arms, Noss no. 509.  
     1688, Double Eagle/Arms, Noss no. 510, ANS Coll., Coll. Den Haag.  
 Gronsfeld: *Johann Franz* 1692, Monogram/Arms, Weise no. 1624, ANS Coll. (PLATE XXI, 8), Vienna Cabinet.  
     1693, Arms/Monogram, Weise no. 1625, Den Haag Coll.  
     1693, Bust/Arms, Coll. Den Haag.  
 Hanau: *Philipp Reinhard* 1693, Bust/Arms, Noss no. 525.  
 Henneberg: 1692, Hen/Arms, Noss no. 511, Jungfer Coll. no. 2245, Vienna Cabinet, Sale A. Cahn Apr. 15, 1929, no. 1696, ANS Coll. (2 copies), writer's coll. with added counterstamp of the Franconian Circle.  
     1693, Hen/Arms, Noss no. 508, 523.  
     1694, Hen/Arms, Noss no. 526.  
 Hildesheim (City): 1683, Inscription/Arms, Buck & Bahrfeldt no. 293.  
     1690, Inscription/Arms, Buck & Bahrfeldt no. 313, Noss no. 521.  
     1692, Inscription/Arms, Buck & Bahrfeldt no. 321, Cappe no. 700.  
     1695, Inscription/Arms, Cappe no. 719.  
 Lauenburg: *Julius Franz* 1678, Bust/Arms, Noss nos. 507, 519, 520, Jungfer Coll., no. 2245, ANS Coll.; in the Cahn sale Nov. 30, 1931, no. 776 there is a specimen with both the COLN and the Franconian counterstamps.  
     (1679, Bust/Arms, Noss no. 516).<sup>2</sup>  
 Magdeburg (City): 1675, Arms/Inscription, Noss no. 515, Schrötter *Magdeburg* no. 1533.  
 Reuss (Younger Line): *Heinrich I* 1678, Bust/Arms, Schmidt & Knab no. 498 (also with both COLN and Franconian stamp).

<sup>1</sup> This piece comes from the Kress Sale December 8, 1955, where it was erroneously described as having the counterstamp of the Franconian Circle.

<sup>2</sup> This date seems to be an error of Noss. Perhaps it was partly obliterated on the specimen he saw. Neither Schmidt nor Dorfmann know of any guldiner of Julius Franz between 1678 and 1688.

Saxony-Weimar: *Johann Ernst II* 1676, Bust/Arms, Noss no. 512.

Sayn-Wittgenstein: *Gustav* 1678, Bust/Arms, S. Rosenberg Sale, June 3, 1912, no. 1145 where the stamp is described as the "new Cologne counterstamp" and without indication of a figure indicating a value in Albus, and thus probably is the COLN stamp.

Schwarzburg-Sondershausen: *Christian Wilhelm I* 1676, Bust/Arms, Friedrich Coll. no. 1319, Noss no. 513.

Solms-Hohensolms: *Ludwig* without date, Bust/Arms Joseph no. 292. 1676, Bust/Arms, Noss no. 506.

In addition the Helbing Sale of Oct. 14, 1912, lists as no. 14154 a guldiner of 1700, of the City of Cologne with this counterstamp. The piece is also illustrated there<sup>1</sup> and the counterstamp is very indistinct. Most probably the appearance of the counterstamp on this late guldiner of Cologne is due to an overstriking similar to that mentioned above in connection with the counterstamp of the Franconian Circle.

Unlike the counterstamp of the Franconian Circle the COLN stamp is also found on half guldiner or  $\frac{1}{2}$  taler. The following pieces are known to the writer:

(Brunswick-Calenberg: *Ernst August* 1678, Noss no. 518).<sup>2</sup>

Gronsfeld: *Johann Franz*, date obliterated<sup>3</sup> (1693) Monogram/Arms, Coll. Den Haag.

Henneberg: 1693, Hen/Arms, Noss nos. 522, 524.

Münster: (Bishopric) *Friedrich Christian* 1692, Arms/Inscription, Cahn Sale Feb. 26, 1931, no. 224, Cahn Sale Apr. 4, 1932, no. 700.

Osnabrück: (Bishopric) *Ernst August* 1671, Arms/Inscription, Jungfer Coll. no. 2245 (on Kennepohl no. 297).

As Noss points out,<sup>4</sup> there is no direct documentary evidence for the origin of this counterstamp nor for the fact that it was the city of Cologne that affixed it. In particular the decree of the City of March 18, 1693,<sup>5</sup> which provides that the City will counterstamp guldiner of less than the value of the Leipzig standard does not

<sup>1</sup> A similar indistinct monogram counterstamp on a Cologne guldiner of 1700 appears in the Cahn Sale of January 15, 1929, as no. 361.

<sup>2</sup> There seems to be some error in Noss. Ernst August did not succeed in Calenberg until 1679. Prior to that time he ruled as Bishop of Osnabrück but the latest coins struck there according to Kennepohl are dated 1676.

<sup>3</sup> The only dated half guldiner of Johann Franz with monogram/arms listed by Chalon is of 1693 (p. 377, no. 6).

<sup>4</sup> Noss, *Cologne*, p. 251.

<sup>5</sup> Reprinted *Num. Zschr.* XX, pp. 148f.

mention the stamping of guldiner of full value. Even less does it provide for a stamp for that purpose.

Yet, apart from the fact that there are several punches of the stamp in the Historical Museum of the City of Cologne<sup>1</sup> and fairly large numbers of counterstamped guldiner actually exist, we do possess some indirect documentary evidence for the use of a stamp and for the fact that it was used in Cologne.

The actual use of a stamp for guldiner of the full value and the probability that it was the COLN one result from two decrees or recesses of Assay Meetings of the Westphalian Circle. In the one dated July 4, 1695,<sup>2</sup> the Leipzig Convention after having provisionally been accepted as early as 1690,<sup>3</sup> was reaffirmed and it was then provided that in addition to certain guldiner which were presumed to be of the full value<sup>4</sup> only those whose full value was attested by "the counterstamp of the Circle" could remain in circulation.<sup>5</sup> The still later decree of Aug. 7, 1698, again mentions counterstamped guldiner and says that they may remain in circulation.<sup>6</sup>

This proves that "a counterstamp of the Circle" was indeed used for guldiner of full value, and while Noss accepts only reluctantly that the COLN stamp could be the one, Joseph<sup>7</sup> and Buse<sup>8</sup> quote the Recess of 1695, as describing the stamp as the one "with the monogram" (mit dem Zuge) which leaves hardly a doubt that the COLN stamp was meant.

As for the fact, finally, that the stamp for guldiner of the full value was used in the city of Cologne we have a decree of the Elector Palatine for his duchies of Jülich and Berg dated Dec. 9, 1692.<sup>9</sup>

<sup>1</sup> *Num. Zschr.* XX, p. 153.

<sup>2</sup> Buse, p. 312 (62).

<sup>3</sup> Lennartz, p. 16.

<sup>4</sup> I.e., those of the following estates: all the electors, the directors of the Circle (the Bishop of Münster and the Duke of Jülich and Berg) Sweden and Denmark "of full value," the Bishops of Osnabrück and Paderborn, the Dukes of Brunswick-Lüneburg, -Celle, and -Hanover, and the Cities of Cologne and Frankfurt.

<sup>5</sup> Noss, *Cologne*, p. 257.

<sup>6</sup> Buse, p. 313 (63).

<sup>7</sup> *Num. Zschr.* XX, p. 150.

<sup>8</sup> P. 312 (62).

<sup>9</sup> Reprinted, Hagen, p. 438.

This latter reference is pretty good evidence in itself for the identity of the COLN stamp with that mentioned in the Recess of 1695, but an examination of the undertypes known with it serves to support this theory even further.

That the stamp cannot have been used to designate pieces of a standard higher than that of Leipzig is shown conclusively by the fact that we possess numerous pieces of Henneberg bearing it. Fortunately an exchange of letters between the Bishop of Bamberg and the Duke of Saxony-Weimar has survived that shows us that these pieces were of the exact value of the Leipzig standard. Two Augsburg merchants returning from the Leipzig Fair were held up for nine days at the Bamberg border fortress of Forchheim and a number of Henneberg guldiner taken from them and assayed by Peter Paul Metzger, the General Warden of the Franconian Circle at Nuremberg who confirmed in writing on May 6, 1692, that these guldiner were worth 45 "old" kreuzer and were equal in value to those of the Electors of Brandenburg and Saxony. The last statement shows that these guldiner were actually coined on the Leipzig standard.<sup>1</sup>

The remaining possibility that the stamp may have been used to mark all guldiner equal or better than some standard inferior to that of the Leipzig Convention is ruled out by the fact that no such standard was ever adopted during the period by either the City or Archbishop of Cologne or the Westphalian Circle. Moreover, a glance at the annexed schedule shows that with the exception of the guldiner of Gronsfeld there are none known with the COLN counterstamp that are not also known with that of the Franconian Circle or that are attested to be of the Leipzig or a better standard by some contemporary tariff or assay. The Gronsfeld issues are very rare in themselves which may explain why we do not hear about them outside of the Westphalian Circle, but we may take for granted that the tiny county of Gronsfeld adopted the Leipzig standard in 1690, together with the other estates of the Westphalian Circle.<sup>2</sup>

While we may thus consider it well proven that the COLN counterstamp was used to designate guldiner of at least the Leipzig standard, that it was used in Cologne, and that it was, in fact, the stamp

<sup>1</sup> Lucius II, pp. 110ff.

<sup>2</sup> Buse, p. 309 (59); Noss, *Cologne*, pp. 226f.

referred to in the decrees of 1695 and 1698, there is still nothing to prove that it was a stamp of the City of Cologne. The first mentioned decree, indeed, speaks expressly of a "stamp of the Circle."

And, strangely enough, while outside of the casual mention in the decree of Jülich-Berg of Dec. 9, 1692, we have no documentary evidence that a stamp designating guldiner of the full Leipzig value was used in the City of Cologne, we do have a decree of the Archbishop Elector of Cologne dated March 31, 1693, which orders the Elector's mintmaster Friedrich Wendels in Deutz to assay all guldiner and stamp those that are of the full Leipzig value. This decree which is almost contemporaneous with the one of the City ordering the counterstamping of under-value guldiner but quite a few months later than the date on which according to the Jülich-Berg edict guldiner of the full value were actually being counterstamped in the City is mentioned by Friederich,<sup>1</sup> Schöttle<sup>2</sup> and Noss.<sup>3</sup> None seems to have seen it; the two first mentioned refer back to a report in Leitzmann's *Numismatische Zeitung*, 1853, p. 136 and all three agree that they have never seen such a stamp. Cappe, who also mentions it,<sup>4</sup> reports that it is contained in "Vollständige Sammlung deren die Verfassung des Erzstiftes Cöln betr. Stücken usw., Cöln 1773, Teil 2, S. 166" and adds flatly that the COLN counterstamp was affixed by the Deutz mintmaster as a consequence of this decree. Surely this is a possibility and since guldiner of the full value were being counterstamped in the City according to the Jülich-Berg edict as early as December 1692, the stamp was perhaps used both in Cologne and in Deutz. It was equally appropriate in both places. Moreover, while his possessions were contiguous to or even surrounded by the lands of the estates of the Westphalian Circle the Elector himself did not belong to it. This, in turn, may furnish an explanation of the fact that disturbed Noss, namely that a "stamp of the Circle" should have consisted of the monogram COLN. Conceivably this could have been done to make it possible for the Elector to use it along with the City that did the counterstamping for the Circle.<sup>5</sup> After all, Deutz

<sup>1</sup> P. 19.

<sup>2</sup> P. 49.

<sup>3</sup> Noss, *Archbishopric*, III, p. 282.

<sup>4</sup> P. 161.

<sup>5</sup> The Jülich-Berg edict says specifically that the counterstamping is done "by" the City, thus not merely "in" the City.

is just across the Rhine from Cologne and the use of two different counterstamps in the same geographical territory could not have failed to cause confusion. But these are speculations and possibilities, perhaps probabilities and no more..

We do know for certain, however, that the stamp was used, that it designated guldiner of the full Leipzig standard and that it was affixed by the City or the Elector of Cologne or both. The city probably did so at the behest of the Westphalian Circle and the stamping probably started prior to 1693. As shown by the Hildesheim guldiner of 1695, it continued at least into that year.

c) Another counterstamp that was applied to designate pieces that were of the full value of the Leipzig standard was that of Johann Wilhelm, Elector Palatine and Duke of Jülich-Berg. It consists of an orb with cross in an oval and apparently alludes to the dignity of Archdapifer which the Electors Palatine had possessed until 1623, but no longer possessed in 1691. It was by an edict of Sept. 5th of that year<sup>1</sup> that this counterstamp was instituted and it is there described as "the sign of the world," the orb, indeed, being a symbol of the Emperor's domination over the world.<sup>2</sup> According to the edict only guldiner of "counts" that reached the full value of the Leipzig standard were to be counterstamped, but actually the only coin with this counterstamp that seems to be known to anyone is a guldiner of Emden of 1689.

Friederich<sup>3</sup> erroneously calls it a counterstamp of the Palatinate, but Schöttle<sup>4</sup> corrects this. The decree of Sept. 4, 1691, shows clearly that the counterstamp was meant for the Duchies of Jülich and Berg only, although Johann Wilhelm was also Elector Palatine.

The fact that the counterstamp appears on the guldiner of Emden although Emden is not a "count" is explained if it is remembered that in the hierarchy of the Empire the Free Cities ranked behind the counts and thus their coins were *ipso facto* subject to counterstamping if those of the counts were. Actually, and apart of these questions of

<sup>1</sup> Reprinted, Hagen, p. 435f.

<sup>2</sup> *Wörterbuch* p. 226 under "Globus."

<sup>3</sup> P. 80; similar pieces, possibly the same pieces, are listed in Jungfer Coll., no. 2487, and Noss, *Jülich* II, no. 800.

<sup>4</sup> P. 48.



rank, the cities were generally more conscientious in their coinage than the counts or even the princes, and the coins of Emden especially have their full value attested by quite a number of pieces with the COLN and the Franconian counterstamps as well as many contemporary tariffs and assays. There may have been some that were found at an assay in 1700, to be badly under-value<sup>1</sup> but even if these were not, as they well may have been, counterfeits or "Beischläge" there is hardly any reason for Noss' characteristic blanket condemnation or his great surprise that the piece with the Jülich orb counterstamp should exist.<sup>2</sup>

d) Another equally rare counterstamp on guldiner of the full value of the Leipzig Convention is that of the City of Hildesheim in the Lower Saxon Circle. It consists of the "new" coat of arms of the city namely a shield showing in its upper half the upper part of an eagle to the left and in its lower half four quarters alternately yellow and red. There is no documentary evidence for the origin of this counterstamp and the only piece known with it is a guldiner of Joseph Clemens the Archbishop Elector of Cologne of 1694.<sup>3</sup>

The fact that these pieces are of the full value of the Leipzig standard is attested by Noss<sup>4</sup> and the counterstamp therefore seems to have been used for the purpose of marking such pieces as was done at the same time in the neighboring Westphalian Circle.

e) Finally Schöttle<sup>5</sup> mentions that the City of Lindau in the Swabian Circle decided in November 1693, to counterstamp guldiner of the Leipzig standard. No specimens are known and Schöttle doubts whether Lindau ever went through with its plans.

7. It now becomes necessary to discuss another counterstamp of the period which has actually nothing to do with the standard of the Leipzig Convention, but the significance of which has often been misinterpreted and which has caused considerable confusion. It consists of a horse jumping towards the left in a transverse oval. On the better preserved pieces the initials I P are visible on the body of the horse.

<sup>1</sup> Hagen, p. 432.

<sup>2</sup> Noss, *Jülich*, II, p. 191.

<sup>3</sup> Buck & Bahrfeldt, no. 574 b, Jungfer Coll., no. 2345.

<sup>4</sup> *Archbishopric* III, p. 283.

<sup>5</sup> P. 50.

Some of the earlier writers such as Madai<sup>1</sup> and Weise<sup>2</sup> have ascribed this counterstamp to Brunswick, but today it is generally recognised that it is a counterstamp of the Westphalian Circle and that the initials I P are those of Johann Post who was its General Warden from 1686 until 1702. To the knowledge of the writer the stamp is found on the following guldiner and half-guldiner:

**Guldiner:**

Cologne (City): 1689, Arms/Double Eagle, Hess p. 165 f., Merle no. 60, p. 520.

Dortmund: 1688, Imperial Bust/Arms, Meyer no. 128, Coll. Münster.

Gronsfeld: *Johann Franz* 1688, Arms/Value, Weise no. 1623, 1623.2, Chalon no. 2.<sup>3</sup>

Jülich: *Johann Wilhelm* 1688, Arms/Ship, Weise no. 1356, Noss Jülich II no. 773, Jungfer Coll. no. 2488.<sup>4</sup>

Rietberg: *Franz Adolph Wilhelm* 1688, Arms/Value, ANS Coll., Buse no. 73a, Friederich no. 275, Ahrens Coll. no. 1371, Peus Cat. 248, no. 909 Vienna Cabinet.

**Half-Guldiner:**

Gronsfeld: *Johann Franz* 1688, Arms/Value, Coll. Den Haag, Reichel'sche Münzsammlung, vol. 6, p. 302, no. 389.

Rietberg: *Franz Adolph Wilhelm* 1688, Arms/Value, Coll. Münster, Auct. Cahn Apr. 15, 1929, no. 1970, Buse no. 74.

As regards the origin of this stamp everyone seems agreed that it is the one provided for by the Recess of the Assay Meeting of the Westphalian Circle dated May 20, 1688,<sup>5</sup> but while Hess appears to have no doubt that it began to be used immediately after this meeting and as soon as the die cutter Jakob Lyr had prepared the punches, and while this also seems to be the opinion of Friederich, Schöttle expressly denies it. He gives as his reason that the Rietberg guldiner mentioned by Friederich would not have justified the

<sup>1</sup> III, p. 102, no. 5805.

<sup>2</sup> II, p. 6, no. 1356.

<sup>3</sup> This coin is actually pictured with the counterstamp in the illustrations to the Frankfurt edict of February 16, 1693, Lucius II, pp. 188 ff, plate 12.

<sup>4</sup> The date actually given in the catalogue of the Jungfer Sale is 1880, which is obviously a typographical error. According to Noss and Weise guldiner of the Arms/Ship design exist only with the dates 1688, 1689 and 1690. Quite possibly the piece in the Jungfer sale is identical with that listed by Noss.

<sup>5</sup> Hess, p. 166; Friederich, p. 103; Schöttle, pp. 46 f.; Noss, *Cologne*, pp. 226, 250. The recess itself is reprinted by Buse, p. 212 (62).

counterstamping in 1688, because of its low intrinsic value, and he concludes that the stamp was actually placed on the coin in the spring of 1693, i.e., some time after the Circle had adopted the Leipzig standard. Noss mentions the stamp, but leaves the question of the time of its use open.

The evidence, however, seems to point clearly to the fact that the stamp was used in the period immediately following the Recess of 1688. As far as is known to the writer the stamp does not appear on any coin dated later than 1689, i.e., on no coin struck according to the Leipzig standard and this in itself would make it highly improbable that it could have been used to designate guldiner and half-guldiner as being of the full value of this standard which in turn could have been the only reason why a coin could have been counterstamped in the spring of 1693.

In addition we must note that all known guldiner and half-guldiner with this counterstamp are coins of Estates of the Westphalian Circle and this corresponds exactly with the provision of the Recess ordering Post together with Nikolaus Longerich (the Jülich-Berg mintmaster in Mülheim) and Peter Newers (the city mintmaster in Cologne) to assay all guldiner and half-guldiner that were to be struck in the authorized mints of the Circle<sup>1</sup> and to counterstamp them if they were found to be of full value. This value, too, had been fixed by the Recess which provided that 12½ guldiner were to be struck from a Cologne mark of silver of a fineness of 12 ounces.<sup>2</sup> Calculated at the Cologne mark of 233.856g.<sup>3</sup> this gives these guldiner a content of 14.03g. of fine silver as against only 12.992g. in a guldiner of the Leipzig standard.<sup>4</sup>

The provisions of the Recess thus seem to insure that the only pieces that can possibly be found with the counterstamp created by it can be guldiner or half-guldiner of Estates of the Westphalian Circle that were coined in the years 1688, 1689, and possibly 1690, before the Leipzig standard was adopted by the Circle and its Estates.

<sup>1</sup> And only those. Not those already in circulation as Noss says. The recess also provides that guldiner and half-guldiner should be struck only until October 1, 1688, but this seems to have not been observed.

<sup>2</sup> Noss, *Cologne*, p. 225; this fineness is equivalent to 750/1000.

<sup>3</sup> *Wörterbuch*, p. 371.

<sup>4</sup> Noss, *Cologne*, p. 226.

And, indeed, these are exactly the coins we know with the stamp with the horse.

We may therefore conclude that the counterstamp with the horse is the one mentioned in the Recess of 1688, and was applied in the period immediately following. Moreover, even if, despite the language of the Recess, the stamp was not affixed on the guldiner of the standard of the Recess before they left the mint—and we do know specimens without the stamp—it is highly unlikely that the counterstamping continued after the adoption of the Leipzig standard. All the tariffs published after that time show quite clearly that the guldiner of the Leipzig standard circulated at exactly the same value as the older ones of higher silver content and so there would certainly have been no reason to continue to counterstamp separately those on the 1688 standard. Equally unlikely is the assumption that the stamp could have been used after 1690, to mark guldiner of the Leipzig standard. As already said, none are known and in addition we know that for this purpose the COLN stamp was used in the main commercial city of the Circle and perhaps elsewhere.

Our final conclusion thus would be that the use of the counterstamp with the horse was discontinued before the adoption of the Leipzig standard in the Westphalian Circle and that thereafter the COLN stamp came in use at some subsequent date for the purpose of marking guldiner according to that standard (or a better one) that could continue to circulate.

As for Schöttle's statement that the Rietberg guldiner of 1688—apparently the only one he knew with the counterstamp—was insufficient to justify its counterstamping in 1688, there seems to be no evidence to support it. Schöttle himself quotes none, while Hess<sup>1</sup> says specifically that the guldiner of Cologne of 1689, are exactly of the same weight as those of Rietberg of 1688, and the Cologne guldiner of 1688 and 1689 are known to have been coined in compliance with the Recess of 1688.<sup>2</sup> It might be objected that Hess refers to the weight only, and that the alloy of the Rietberg guldiner might be insufficient. Now it is in itself not very likely that the Count of Rietberg, one of the least powerful Estates of the Westphalian Circle

<sup>1</sup> P. 166.

<sup>2</sup> Noss, *Cologne*, p. 226.

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should have dared openly to flout an edict of the Circle in the very year in which it was issued and especially when he was under obligation to deliver specimens to the Warden of the Circle for assay. Moreover, Buse<sup>1</sup> says specifically that the Rietberg guldiner and half-guldiner of 1688, were struck in conformance with the standard set by the Westphalian Circle in 1688, had a weight of 18.705g. and contained 14.029g. of fine silver. If, as the Recess seems to stipulate, each piece was examined and stamped by Post, Longerich or Newers even before it left the mint, then there can certainly be no doubt that they must have met the required standard.

Schöttle's opinion of the intrinsic value of the Rietberg guldiner of 1688 cannot, therefore, be accepted and it can only be surmised that he was misled by the fact that this guldiner appears in a set of coin illustrations appended to an edict of the Senate of the City of Frankfurt of February 16, 1693, (where it is labelled "Ostfriesland").<sup>2</sup> This edict validates all the illustrated guldiner for further circulation, most of them being obviously struck according to the Leipzig standard. But, of course, in 1693, Frankfurt was only interested whether these guldiner had that value as a minimum. If they had, they could continue to circulate and if they were better it was immaterial.

8. The second category of counterstamps connected with the standard of the Leipzig Convention are those that were affixed to show that a coin was insufficient according to that standard. Since it was the predestined fate of such coins eventually to be called in and melted down, they are naturally much less plentiful today than those bearing stamps testifying to their full value according to the Leipzig standard. In fact, in one case, at least, not a single specimen seems to have survived.

a) The earliest of these stamps in chronological order is that of the County of Hanau.<sup>3</sup> It has its origin in an instruction of the Hanau government to its mintmaster Sebastian Müller dated December 29, 1690,<sup>4</sup> which ordered him to counterstamp all guldiner

<sup>1</sup> P. 313 (63).

<sup>2</sup> Lucius, II, pp. 188 ff., Plate 9.

<sup>3</sup> Suchier p. 105; Schöttle, p. 47; Friederich, p. 53.

<sup>4</sup> Reprinted in *Frankfurter Münzzeitung*, 1905, p. 292.

that had not been approved for continued circulation by the recent mandate of the neighboring City of Frankfurt dated December 11, 1690,<sup>1</sup> unless they were (1) counterfeits, (2) struck by one Estate with dies imitating the coinage of another (so-called *Beischläge*), or (3) had a weight of less than 14 to the mark and a fineness of less than "9-10" ounces. Calculated for the Cologne mark this means pieces weighing less than 16.704g. and being less than .5625 fine. In other words, if both minimum weight and minimum fineness were present in the same piece, it could have had only less than 9.269g. fine silver and still qualified for counterstamping. The lower limit thus was very low, indeed, and the upper limit was just below the Leipzig standard, which forms the minimum of the Frankfurt mandate.

The stamp itself consists of an oval with the chevrons that constitute the arms of Hanau. It appears on guldiner only and the pieces known with it are the following:

- Anhalt-Zerbst: *Carl Wilhelm* 1679, Bust/Arms, Mann no. 253q.  
 Saxony-Eisenach, *Johann Georg II* 1691, Bust/Arms, Suchier p. 105, Coll. Jungfer no. 2340.  
 Saxony-Meiningen: *Bernhard* 1689, Bust/Arms, Weise no. 1484.3.  
 Saxony-Weimar: *Johann Ernst II* 1677, Bust/Arms, Suchier p. 105, Friederich no. 146.  
 Sayn-Wittgenstein: *Gustav* 1676, Bust/Arms (date divided by arms) Joseph Coll. no. 5320.  
 1677, mentioned without description by Suchier *Frankfurter Münzzeitung* 1905, p. 294, as in the possession of Paul Joseph.

b) The next in date is a stamp of the Landgraviate of Hessen-Cassel. Schöttle<sup>2</sup> mentions a decree of March 18, 1691, ordering it to be used, but no specimen is known.

c) On the other hand there are three guldiner known with a counterstamp consisting of a nettle-leaf with a grilled center and three nails in the angles. The pieces are the following:

- Saxony-Eisenach: *Johann Georg II* 1690, Bust/Arms, Friederich no. 245. 1691, Bust/Arms (on Weise 1438.4) ANS Coll.<sup>3</sup> (PLATE XXI, 9).

<sup>1</sup> Reprinted in Lucius, I, pp. 154 ff.

<sup>2</sup> P. 47.

<sup>3</sup> This piece comes from the Jacques Schulman sale of February 4, 1957, (no. 1513) and the Grabow price list of March 1957, (no. 292) and is erroneously described in both places as being a guldiner of the Elector Johann Georg III of Saxony.

Saxony-Weimar: *Johann Ernst II* 1677, Bust/Arms, Friederich Coll. no. 1616.

The counterstamp is exactly like the coat of arms of Schaumburg and both Friederich<sup>1</sup> and Schöttle<sup>2</sup> ascribe it to Schaumburg-Lippe. Friederich himself, remarks that the Schaumburg-Lippe mint in Bückeburg was not working in the 1690's, but says in support of his attribution that Johann Hinrich Hoffmann who had been mintmaster in Bückeburg is mentioned as mintmaster in Detmold from 1671–1695.

Detmold, however, is not in Schaumburg-Lippe, and Weinmeister<sup>3</sup> says that the last coinage in Bückeburg or anywhere else in Schaumburg-Lippe in the seventeenth century took place in 1677, with Hoffmann as mintmaster, and that the next coinage of that county did not take place until 1730.<sup>4</sup> While coining in Bückeburg in 1676 and 1677, Hoffmann according to Weinmeister was probably mintmaster both for Lippe at Detmold and for Schaumburg-Lippe at Bückeburg, but once that coinage had ceased there is little likelihood that the mint in Bückeburg was reopened just to countermark a few coins or, even less, that the countermark should have been affixed with the Schaumburg coat of arms in Lippe.

On the other hand it must be remembered that as a consequence of the treaty of July 16, 1647, settling the disputed succession after the death of the last Schaumburg count Otto V in 1640, the Schaumburg coinage rights were held jointly by the new counts of Schaumburg-Lippe and the landgraves of Hesse-Cassel, and that half of the coins for the county were thereafter actually struck by the landgraves in Cassel. Is it not under these circumstances possible that the counterstamp with the nettle-leaf might have been affixed in Cassel where a mint entitled to strike coins for Schaumburg-Lippe was open and operating at the time?<sup>5</sup>

d) The final counterstamp for coins of a value inferior to that of the Leipzig standard is that of Jülich. It was instituted by the same

<sup>1</sup> Pp. 92f.

<sup>2</sup> P. 49.

<sup>3</sup> *Bl. f. Mzfr.* 1906, col. 3575.

<sup>4</sup> L.c. 3616.

<sup>5</sup> Cf. Hagen, p. 432, note 5.

decree of September 4, 1691, which also provided for the counterstamp with the orb. It consists of a lion with one tail upright to the right in a circle. This is the coat of arms of the Duchy of Jülich and was used even though the stamp was actually applied at the mint in Düsseldorf which is in Berg. The decree mentions both duchies which at the time belonged to the Elector Palatine Johann Wilhelm and the Jülich lion with one tail rather than the Berg lion with two may have been used because Jülich was the presiding temporal estate of the Westphalian Circle.

The decree of September 4, 1691, had attached to it a set of illustrations depicting guldiner of less than the Leipzig standard and the specific instructions were that these as well as those of other "old counts" that were below this standard could not continue to circulate unless they were counterstamped with the lion. The pieces with the counterstamp known to the writer are the following:

Anhalt-Zerbst: *Carl Wilhelm* 1678, Bust/Arms, Mann 252w.<sup>1</sup>

Hildesheim (City): 1690, Inscription/Arms, Buck & Bahrfeldt no. 313.

Lübeck (Bishopric): *August Friedrich* 1688, Bust/Arms, ANS Coll. (it also bears the Cologne counterstamp for 48 Albus).

Mecklenburg-Güstrow: *Gustav Adolph* 1688, Bust/Value, Noss no. 528 (it also bears the Cologne counterstamp for 46 Albus).

Rantzau: *Dettef* 1689, Bust/Arms, Hagen p. 433.

Saxony-Eisenach: *Johann Georg II* 1690, Bust/Arms, Hagen p. 432.

Saxony-Gotha: *Friedrich I* 1679, Crowned F/Arms, Friederich no. 161.

Saxony-Weimar: *Johann Ernst II* 1677, Bust/Arms, Coll. Jungfer no. 2361, Cahn Sale January 15, 1929, no. 4887; Vienna Cabinet.

Sayn-Wittgenstein: *Gustav* 1675, 16 Gute Groschen, Arms/Inscription. Hagen p. 433.

1677, mentioned by Schöttle<sup>2</sup> without description but stating that it bears the Cologne counterstamp for 36 Albus.

1678, Bust/Arms, (date divided by arms) Coll. Joseph no. 5387, Jungfer Coll. no. 2247 also bearing the Cologne counterstamp for 36 Albus.

Schleswig-Holstein-Plön: *Johann Adolph* 1690, Bust/Arms, Noss Jülich II no. 799, also mentioned by Friederich<sup>3</sup> as being in the Pachinger Coll. in Linz.

<sup>1</sup> Mann calls this a counterstamp of Brunswick, but the illustration shows that it is the Jülich lion.

<sup>2</sup> P. 48.

<sup>3</sup> P. 58.



While initially the counterstamped guldiner could continue to circulate at the full value of 40 Stuivers<sup>1</sup> a decree of December 9, 1692,<sup>2</sup> reduced their value to 38 Stuivers effective February 1, 1693, and demonetized them completely effective March 1, of that year. On February 14, 1693, a further decree ordered that they must be turned in until March 20 for 33 Stuivers.<sup>3</sup>

9. The last class of counterstamped guldiner, finally, are those that bear a stamp actually stating their value and thus permitting a gradual withdrawal. The diet of the Franconian Circle had at one time debated the proposal to counterstamp all guldiner, good as well as bad, in that fashion, but rejected the idea. The stamps of this type actually used, namely those of Cologne and Aachen, were affixed only to guldiner of less than the Leipzig standard.

a) We have already encountered the Cologne stamp along with that of the Jülich lion. It was instituted by the decree of the City of March 18, 1693,<sup>4</sup> and consists of an oval containing three crowns (which are part of the arms of the city) and below them the value of the coin so counterstamped in Albus.<sup>5</sup> The pieces known with this counterstamp are the following:

50 Albus:

Lübeck (Bishopric): *Friedrich August* 1678, Bust/Arms, Noss no. 527.

Solms-Hohensolms: *Ludwig* without date, Bust/Arms, Joseph no. 289.

48 Albus:

Lübeck (Bishopric): *August Friedrich* 1688, Bust/Arms, ANS Coll.

also bearing Jülich lion counterstamp (on Lange no. 508a).

46 Albus:

Mecklenburg-Güstrow: *Gustav Adolph* 1688, Bust/Value, Noss no. 528,

also bearing Jülich lion counterstamp.

44 Albus:

Saxony-Römhild: *Heinrich* 1691, Bust/Arms, Noss no. 529, Friederich no. 40.

42 Albus:

Saxony-Gotha: *Friedrich I* 1679, Crowned F/Arms, Noss no. 531, Coll. Jungfer no. 2246.

<sup>1</sup> Schöttle, p. 48.

<sup>2</sup> This and the following edict are reprinted in Hagen, pp. 437 ff.

<sup>3</sup> Noss, *Jülich* II p. 164. A stuiver is equivalent to 1½ Albus.

<sup>4</sup> Reprinted *Num. Zschr.*, XX, pp. 148f.

<sup>5</sup> Schöttle, p. 48; Noss, *Cologne*, p. 251.

Saxony-Weimar: *Johann Ernst II* 1678, Bust/Arms, Lempert Sale September 29, 1925, no. 670.

Sayn-Wittgenstein: *Gustav* 1677, Bust/Arms, Noss no. 530.

No date, Bust/Inscription, 24 Mariengroschen, Helbing Sale Dec. 5, 1932, no. 951.

In addition two counterfeits are known of this counterstamp.

Sayn-Wittgenstein: *Gustav* 1676, Bust/Arms, Noss no. 535.

1678, Bust/Arms, Friederich Coll.<sup>1</sup> no. 1321.

36 Albus:

Sayn-Wittgenstein: *Gustav* 1676, 16 Gute Groschen Noss no. 533,

Hamburger Sale April 4, 1900, no. 1221 (same specimen).

1678, Bust/Arms, Joseph Coll. no. 5387, Coll. Jungfer no. 2247, also bearing Jülich lion stamp.

1681, Noss no. 532, Fischer, Price List 1897, no. 3206.

1689, Bust/Arms, Weise no. 1780, Vienna Cabinet.

The value of the Albus for the purpose of this counterstamp is determined by the fact that in 1688, the Westphalian Circle had fixed the value of the "taler" as a money of account at 80 Albus,<sup>2</sup> a valuation which still subsisted in the 1690's. A guldiner being equal to  $\frac{2}{3}$  of a taler was thus worth  $53\frac{1}{3}$  Albus<sup>3</sup> regardless of the standard on which the guldiner was struck and since there were 90 Kreuzer to the Taler as a money of account the Albus was equivalent to  $1\frac{1}{8}$  Kreuzer or the Kreuzer to  $8/9$  Albus.<sup>4</sup>

The punches themselves are still preserved in the Cologne Historical Museum and although only counterstamps with the values of 50, 48, 46, 44, 42, and 36 have been found by the writer, Joseph<sup>5</sup> tells us that there is also a punch with the value of 40. Furthermore, Joseph states that there are punches both with the letters P and N under the numbers. P stands, of course, for Johann Post, the General Warden of the Circle and Special Warden of the City, while N stands for Peter Newers (or Neuers) who was mintmaster in Cologne from 1680 until 1698. Punches with P exist for all values, punches with N only for 50, 46, 44, 42 and 36. All countermarked pieces listed by Noss bear the letter P and so do the pieces in the ANS Collection,

<sup>1</sup> In the sales catalogue the counterstamp is described as "of later fabric."

<sup>2</sup> Noss, *Cologne*, p. 225.

<sup>3</sup> Schöttle, p. 48.

<sup>4</sup> Noss, *Archbishopric*, vol. III, p. 283, note 1.

<sup>5</sup> *Num. Zschr.* XX, pp. 149 ff.

no. 40 of the Friederich Collection, Weise no. 1780 and the piece from the Helbing Auction. The Solms piece has N and the remaining ones could not be verified. Joseph, on the other hand, mentions signs of use on all punches except 44 N, 46 P and 46 N.

While the differentiation in value afforded by this method of counterstamping would have made it possible to withdraw the under-value guldiner gradually, this did not, in fact, take place. The assay meeting of the Westphalian Circle of July 1695, decreed that they should all be withdrawn from circulation at once after a final grace period of three months.<sup>1</sup> The pieces with the COLN counterstamp, as will be recalled, remained in circulation for a long time thereafter.

b) There is, finally, another counterstamp indicating a value in figures that appears on guldiners of the period. It consists of an eagle looking left with the figure above. The following two pieces with it have come to the writer's knowledge:

Lübeck (Bishopric): *Friedrich August* 1688, Bust/Arms, Value: 34, Friederich Coll. no. 1265, (on Lange 508).

Sayn-Wittgenstein: *Gustav* 1676, (the final 76 is conjectured by Menadier and not legible on the illustration) Bust/Arms (date divided by arms), Value: 32, Menadier. *Zschr. f. Num.*, XXX, p. 400, no. 250; illustrated p. 422.

Both Friederich and Menadier accept the counterstamp without any further explanation for Aachen although the one-headed eagle could stand for many other estates, particularly free cities such as Frankfurt or Lübeck. In fact, Menadier in his coinage history of Aachen<sup>2</sup> never even mentions any counterstamping activity of that city nor has anyone as yet explained what the figures mean.

What may or may not be a reference to this counterstamp, however, appears in an edict of the Council of the Free City of Aachen dated 6 April 1691, that is reprinted in the extensive collection of documents pertaining to the coinage history of Aachen published by Menadier.<sup>3</sup> This document as well as the immediately following list of guldiner that could for the time being remain current (which includes inter alia those of the partners to the Leipzig Convention) contains a

<sup>1</sup> Noss, *Cologne*, p. 257.

<sup>2</sup> Menadier, pp. 217 ff.

<sup>3</sup> Menadier, pp. 386 ff.

passage wherein the Council reserves the right to devalue certain guldiner.

The edict specifies that all guldiner struck at a standard less than the one provisionally established by the Circle in 1688, may be completely prohibited and all others devalued "according to the Imperial standard" by the City Council. Then it goes on to say that guldiner of "Electors and Cities as listed below"<sup>1</sup> may provisionally continue to circulate, but the newly minted ones of "Counts" that do not bear the counterstamp of the Circle must disappear at the end of three weeks. Which stamp is meant, the horse or COLN is not clear, as we do not know when the use of the COLN stamp started. Further importation of these unstamped coins is prohibited under the most severe penalties including confiscation, and at the end of the three weeks these coins will be examined and either prohibited outright or devalued according to the Imperial standard along with "those described herebelow". Finally it is ordered that effective three days after the issuance of the edict (April 9) the guldiner of the "Counts" without the countermark may not pass for more than 32 mark and in that connection it must be remembered that in Aachen the Taler was worth 56 marks,<sup>2</sup> hence the guldiner  $37\frac{1}{3}$ .

The counterstamp could have been an expression of this "devaluation" by the city authorities, but if it was, the value on the stamps accorded no better with the announced principle of this devaluation "according to the standard of the hard Reichstaler" than the passage in the edict itself that the guldiner of "counts" without the countermark could continue to pass for 32 mark.

If the weight and fineness of the "hard" Reichstaler (as the edict expressly says) form the basis of the valuation and if it is equivalent to 56 mark, then a guldiner of the Leipzig standard which has exactly half the value of a Reichstaler can be worth only 28 mark or less than the value put on those unstamped guldiner of counts. Moreover, we have the Lübeck guldiner of 1688, not only with the Aachen stamp for 34 mark, but also with the Cologne counterstamp for 48 Albus. These Albus, as we have seen, are adjusted to a taler of account of

<sup>1</sup> The list actually contains not only electors and cities, but also princes (both spiritual and temporal), counts and even the imperial castle of Friedberg.

<sup>2</sup> Menadier, p. 390.

80 Albus. The simple equation  $48 : 80 = 34 : x$  shows that the 34, if the stamp is correctly attributed to Aachen and if the figures mean marks must have been adjusted to a taler of account of  $56\frac{2}{3}$  mark. Or, since all these valuations were within a certain tolerance and fractions are not used on the stamp we may conclude that, in spite of the language of the edict, Aachen did not base the valuation in mark on a hard Reichstaler of the Imperial standard of 56 mark, but on a taler of account of 56 mark, as was done in a similar fashion everywhere else at the time.

10. In the foregoing we have seen that apart from the stamp with the horse which served a special and strictly limited purpose within the Westphalian Circle there are actually just two groups of stamps. The first was designed to show that a guldiner had an intrinsic value at least equal to that of the Leipzig standard and could thus remain in circulation as long as that standard continued to be current which turned out to mean indefinitely. This group of stamps includes the one of the Franconian Circle, the COLN stamp, the Jülich stamp with the orb, that of Hildesheim and the Lindau one, if it exists. The other group was designed to mark guldiner whose intrinsic value did not reach that of the Leipzig Convention and which were thus destined to be withdrawn from circulation within a relatively short time. It includes the Hanau and Schaumburg stamps as well as that of Hessen if it exists, the Jülich stamp with the lion and both stamps with the value in figures.

Since we have today many times as many unstamped guldiner of the period as stamped ones, it is clear that neither all the good ones nor all the bad ones were stamped and this raises the twin questions which guldiner were stamped and why. A comparison of all the known stamped pieces will permit at least some answers and in order to facilitate it a schedule is attached showing all the guldiner known to the writer with at least one counterstamp and indicating their classification in some of the published tariffs of the period.

In the collection of material the author has enjoyed the assistance of Dr. Berghaus in Münster, Professor Gebhart and Dr. Steinhilber in Munich, Professor Holzmaier in Vienna, Dr. Enno van Gelder in the Hague and Dr. Rasmusson in Stockholm for which he wishes to extend his gratitude.

OWN WITH

*ps indicating assays and tariffs*

	COLO RANKFURT WITTEDICT OF VAL B. 16, 1693 us II pp. 188 f.	IMPERIAL MAN- DATE FOR BO- HEMIA, DATED VIENNA, NOV. 28 1693, LUCIUS II p. 199	TARIFF WITH VALUES LUCIUS I pp. 60 ff.
Anhalt			49 1/2
	x		
	x		
Rietberg	x		
Saxony-E			
Saxony-F	x		
Sa			
***			
*			
II			
S			
S			
SS			
SS			
SS			
Sa <sup>SS</sup>			
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SS			
SS			
S			
Fre			



It must, of course, be stated again that the listing is not and cannot be complete and that any conclusions drawn must be regarded accordingly. In explanation of the attached schedule the following must be added.

The four classes of the Tariff of the Three Circles indicate: I—guldiner of full Leipzig standard, II—guldiner of  $\frac{5}{8}$  of that value, III—guldiner of  $\frac{3}{4}$  of that value, and IV—prohibited guldiner of less than  $\frac{3}{4}$  of the Leipzig standard including several “Beischläge” and counterfeits. When the tariff in class I shows only one year, but there are other years of the same design which bear the contemporaneous stamp of the Franconian Circle then the listing in tariff I is considered to apply to those years as well since the presence of the stamp shows conclusively that the listing must have been intended to be thus understood. Occasionally a similar assumption has been made in connection with one of the other tariffs but these are based invariably on supporting evidence and thus could be disregarded without changing the result. The valuations for the Hamburg tariff are given in grams of fine silver content as calculated by v. Schrötter,<sup>1</sup> those in the tariff by Lucius are in Kreuzer at 60 to a guldiner of the Imperial standard or 45 to that of the Leipzig standard. In the schedules of the Cities of Nuremberg and Frankfurt and of the Emperor for Bohemia a checkmark means that the guldiner are listed there as being at least of the Leipzig value.

In the coin type descriptions Cypher means a large monogram or initial; value a large  $\frac{3}{4}$ ; Inscription, several lines of lettering which may or may not contain an indication of face value; All., an allegory; and DE, a double-eagle.

If there are two counterstamps on one and the same specimen of an undertype this is indicated by a double headed arrow.

II. The guldiner counterstamped with the first category of stamps appear to permit several kinds of deductions.

a) In the first place we find that of the vast amount of guldiner issued by the partners to the Leipzig Convention practically none are ever found with a counterstamp. There is just one of the Elector of Brandenburg, namely the guldiner for Cleves with the Franconian stamp; of the Dukes of Brunswick there are only the one or two half

<sup>1</sup> *Heckenmünzenwesen*, p. 101.



guldiner of Ernst August with the COLN stamp and they were issued for the Bishopric of Osnabrück before he succeeded in Calenberg (Hanover). Of the Elector of Saxony there is none at all, nor is there one of his brother Augustus of Magdeburg. In addition, there are hardly any of the other Electors. The three ecclesiastical electors coined great numbers of guldiner and yet we have just one each of Cologne, Mayence and Treves, the first with the Hildesheim and the last two with the Franconian stamp. The only guldiner of the Electors Palatine that we find stamped are those of Johann Wilhelm for his Duchy of Jülich and some of these, at least, were struck before he inherited the electorate from his father and reigned as Duke of Jülich-Berg only. The Elector of Bavaria and the Emperor who was Elector of Bohemia did not strike guldiner at all.

Clearly the coins of the Electors as well as those of the Brunswick dukes and of Augustus of Magdeburg were generally accepted as good, but it is remarkable that the same is true for many of the Free Cities. Tariff after tariff shows long lists of "good" city guldiner and yet the only ones we actually find with a counterstamp are those of Emden, Frankfurt, Hildesheim and Magdeburg, and of the latter city we have only one.

b) The bulk of counterstamped guldiner thus consists of those of princes, both temporal and spiritual and of counts, and one should expect that those known with one of the four stamps should also be known with one of the others or, since some of them are so very scarce, should at any rate be attested to as being of the full Leipzig value by one of the contemporary tariffs or assays. By and large this is, indeed so, and were it otherwise we would have to conclude that the whole counterstamping procedure of the period was a worthless farce. Still, there are far too many exceptions from the rule to be dismissed as mere errors. The main problems are connected with the coinages of Prince Carl Wilhelm of Anhalt-Zerbst, Duke August Friedrich of Schleswig-Holstein, Bishop of Lübeck, Duke Johann Ernst II of Saxony-Weimar and Count Gustav of Sayn-Wittgenstein, but there is also a minor discrepancy in the case of the City of Hildesheim.

To dispose of this first we know the guldiner of Hildesheim of 1681, 1690, 1692, 1693, and 1695 each with either the stamp of the Franconian Circle or the COLN stamp or both and yet the guldiner of 1690,

also exists with the Jülich lion stamp. If we turn to the tariffs we find that the Franconian Circle places the Hildesheim guldiner of 1680, in class I and lists no other. The Frankfurt tariff also depicts the 1680 specimen, but the accompanying text simply mentions Hildesheim guldiner without specifying the date<sup>1</sup> and the list accompanying the Aachen edict of April 6, 1691, does the same. Under these circumstances the Jülich counterstamping may perhaps indeed be explained as an error or else the specific piece counterstamped may have been a "Beischlag" of low value.

In the case of Carl Wilhelm of Anhalt-Zerbst we find that according to Mann there is a continuing coinage of guldiner from 1674 through 1679, all of which show on the obverse the bust of the prince to the right and on the reverse the coat of arms. The Tariff of the Three Circles in its preamble says flatly that "all guldiner of Anhalt" are forbidden because they are undervalue. It would, however, appear immediately that this statement can not apply to "all guldiner of Anhalt," because those by the princes of Anhalt jointly as well as those of Johann Georg of Anhalt-Dessau and of Wilhelm of Anhalt-Harzgerode appear amongst those declared as of full value in schedule I of the Tariff.

The flat prohibition thus can only apply to those of Anhalt-Zerbst, and even here we find Schedule III permitting "those until 1676" to pass for 45 (new) Kreuzer or for  $\frac{3}{4}$  of a Leipzig guldiner. Moreover, the Memorandum of the City of Nuremberg says that some batches of Anhalt guldiner are good and the Schedule connected with it shows guldiner of Carl Wilhelm of 1674, 1675, 1676, and 1677, amongst those to be counterstamped. Actually, too, we know guldiner of 1675, 1676, 1677, with the counterstamp of the Franconian Circle of 1676 and 1678, with the COLN stamp. On the other hand we have specimens of 1678, with the Jülich lion stamp and of 1679, with the stamp of Hanau attesting that they both are undervalue.

As for the tariffs we find guldiner of 1678, "and other bad ones" specifically listed in the "forbidden" Schedule IV of the Three Circles, we have one of 1679, marked as containing only 11.863g. of fine silver in the Hamburg assay of March 26, 1690, and find a piece of

<sup>1</sup> Lucius, II, p. 191. For the fact that the Hildesheim guldiner from 1690 are on the Leipzig standard see also Buck & Bahrfeldt, p. 75.

1678 worth 40 and one of 1679 worth 44½ (old) Kreuzer in the Augsburg tariff (Lucius I, pp. 151f. with illustrations).

What then are the facts about this coinage? v. Schrötter<sup>1</sup> says that the Anhalt-Zerbst guldiner get worse and worse from 1674 onwards. This we may take for granted; the real question, is at what time they get so "bad" that they no longer satisfy the Leipzig standard and here it must be remembered that Schrötter speaks from the point of view of the standards prevailing in the 1670's, presumably the Zinna standard.

The counterstamps seem to give a pretty good answer to our question and the assays and tariffs seem to confirm it. Up to 1678, at least some of the Anhalt-Zerbst guldiner contained at least 12.992g. of fine silver, but in 1679, they did so no longer. For further identification of the bad ones in earlier years it may be pointed out that these guldiner come with two different reverse legends. The usual one is MON. NOV. ARG. PR. A.L.S.D.I.E.K.<sup>2</sup> the very much rarer one IN DOMINO FIDUCIA NOSTRA. The Nuremberg Schedule shows the first for all years through 1677, the other for 1675 and 1676 only. Mann has no such guldiner for 1674, 1676 or 1679 and to the writer's knowledge none at all of this type are known counterstamped. The specimen in Schedule IV of the Tariff has the rarer legend and has the FIDUCIA misspelled VIDUCIA. Mann has similarly misspelled ones for 1678. No doubt these were bad, but those can't have been all, as this would hardly have justified the sweeping prohibition in the original Tariff of the Three Circles. There must have been other distinguishing marks that the published schedules do not reflect, yet, as the City of Nuremberg stated, the good ones were quite numerous and counterstamped guldiner of Carl Wilhelm are common, even today.

Somewhat less difficult is the problem concerning the guldiner of 1678, of August Friedrich of Lübeck. This, according to Lange<sup>3</sup> is the only date appearing on them prior to 1688, but guldiner with it continued to be coined until 1681, possibly longer.<sup>4</sup> The original

<sup>1</sup> *Heckenmünzenwesen*, p. 49.

<sup>2</sup> *Moneta Nova Argentea Principum Anhaltensium Lineae Servestensis Dominorum Jeverae et Kniphusii.*

<sup>3</sup> Nos. 505, 506, Vol. I, p. 204.

<sup>4</sup> *Heckenmünzenwesen*, p. 77.

contract between the Bishop and his mintmaster Hans Ridder of May 4, 1678, provided that the guldiner were to be coined on a standard of  $11\frac{1}{2}$  taler to the Cologne Mark which is better than the 12-taler standard of Leipzig, though not much. Later the coinage deteriorated and we find that the Hamburg assay shows a Lübeck guldiner of 1678, that has only 11.988g. of fine silver. This will explain why we have many of these guldiner with the Franconian counterstamp, but also one with the Cologne stamp for 50 Albus, a sure certificate of insufficient value. Fifty Albus are equivalent to 12.181g. of silver or slightly more than the Hamburg assay shows.

The question now is how the good ones could be told from the bad ones for counterstamping purposes. The Tariff of the Three Circles merely seems to add to the confusion. Here we see the same guldiner in Schedule I as of full value and in Schedule II as worth only  $\frac{5}{8}$  of that value. It is listed as Holstein in Schedule I and as Lübeck in Schedule II. The drawings differ very slightly, the most important difference seems to be that some pieces show the mintmark of a mailed arm with sword which designated Hans Ridder and others do not. This mintmark appears sometimes on the upper right of the reverse immediately behind the date and sometimes below the arms within the legend. Weise already<sup>1</sup> mentions this distinguishing mark and, indeed, it seems to be decisive. The guldiner in Schedule I of the Tariff has the arm, the one in Schedule II has not. Similarly the illustration to the Frankfurt edict has it and so has the tariff in Lucius, vol. I. On the other hand the illustration to the Hamburg assay does not have it nor does that to the Augsburg edict of March 27/17, 1691.<sup>2</sup> Finally all five specimens in the writer's collection

<sup>1</sup> P. 307, no. 813.

<sup>2</sup> Illustrations follow Lucius I, p. 152; here the piece is valued at 42 $\frac{7}{8}$  (old)kreuzer. There is also one without the mintmark in a set of illustrations accompanying an edict of Ernst August Duke of Brunswick and Bishop of Osnabrück issued for the bishopric, dated 18 July 1689, and reprinted in Lucius I, pp. 106ff. It is there valued at 19 mariengroschen against 24 for a guldiner of full value. Brunswick was at that time still adhering to the Zinna standard and since the relation between the Zinna and the Leipzig standards is as 12:10.5, any guldiner worth in 1689 less than 21 mariengroschen was below what came to be the Leipzig standard in the following year. Guldiner of the Elector of Brandenburg as well as the City of Emden are there duly valued at 21 mariengroschen.

<sup>12</sup> Notes VII

which are from four different dies and bear the Franconian counterstamp have the mintmark.

According to v. Schrötter there was no mintmaster other than Ridder who took part in the coinage of these guldiner with the 1678 date in Eutin and Lübeck, and we must thus conclude that Ridder placed his mark on those coins that were minted in accord with the contract he had signed and left it off the others.

The guldiner of Johann Ernst II of Saxony-Weimar like those of Carl Wilhelm of Anhalt-Zerbst run from 1674 through 1679 and in addition there are pieces without date. All have the bust to the right on the obverse and the coat of arms on the reverse. The counterstamp of the Franconian Circle appears on all of them, and the COLN stamp on those of 1676, but those of 1677, come with the counterstamps of Hanau and Schaumburg and with the Jülich lion stamp—all three of which say that the pieces are undervalue. Furthermore, there is a piece of 1678 with the Cologne stamp for 42 Albus. Again, obviously, there are good ones and bad ones and the question is how they can be told apart.

There are this time some minor differences in the design of the obverse. In the earlier years the Duke appears without a wig, later he wears one. Weise<sup>1</sup> has the dates 1674, 1675 and 1676, as well as the undated pieces without wig and the dates 1677, 1678 and 1679 with. In the writer's collection (which contains only pieces with the Franconian counterstamp) there are the years 1674 and 1675 without and the years 1676, 1677 and 1678 with wig. Furthermore, the pieces come with and without a circle within the obverse legend. Weise does not differentiate except that in the one case of 1677, he says that guldiner exist both with and without such circle. In the writer's collection there are guldiners of 1674, 1677 and 1678 without and of 1675, 1676 and 1677 with such circle. The piece with the Hanau counterstamp from the Friederich Collection illustrated in the Dresden Yearbook has a wig and no circle, and the piece with the Cologne 42 Albus stamp also has a wig and no circle.

The piece of 1675, the only one contained in Schedule I of the Tariff of the Three Circles has no wig and a circle inside the legend. On the other hand the piece of 1677, contained in Schedule III, of

<sup>1</sup> Nos. 1420, 1421, 1422.

the same Tariff, shows a wig and no circle (but is labeled "with the circle of the legend"). The Schedule belonging to the Nuremberg memorandum show guldiner of 1676 without wig and 1677, 1678 and 1679 with, and on the other hand 1676, 1677 and 1678 with the circle and only 1679 without. The illustrations to the Hamburg assay are drawn in such a way that we cannot say whether there is a wig or not, but we can clearly see that the good one of 1677 has no circle, while the bad one has, and the even worse one of 1678 has not. Obviously the authorities in Hamburg did not consider the differences in design important. But what then was? The Frankfurt assay warns that there are many bad Weimar ones that can easily be told apart by the design and shows in its illustration of good ones a piece of 1675, that clearly has no wig, but a circle and is labelled an "old" guldiner. Exactly the same guldiner is shown in the illustrations with valuations in Lucius I, while among a few guldiner pictured as an annex to an edict of the City of Nuremberg dated October 17, 1689,<sup>1</sup> we find a guldiner of 1677 with wig and without circle that is valued at  $43\frac{3}{4}$  (old) Kreuzer, thus at less than the Leipzig value.

If we are to draw a conclusion from all this, it would be that all the "old" pieces, i.e., those without wig are "good" by the Leipzig standard. As for those of the later years with wig there were obviously good and bad ones and 1677 apparently had particularly many bad ones.<sup>2</sup> The Tariff of the Three Circles shows a specimen of 1677 with wig and circle in Schedule IV but adds that it looks coppery and v. Schrötter rightly says<sup>3</sup> that it was doubtless a forgery. Otherwise none of the later ones with the circle are shown by a contemporary illustration or a counterstamp as being undervalue, and, therefore, considering the statement in the Frankfurt edict "that the good and bad ones can easily be told apart by differences in design" it may perhaps and with all the reservations that an argument ex silentio commands in a situation such as this, be conjectured that the later ones with circle are the good ones, though perhaps not the only good ones.

<sup>1</sup> Lucius, I, pp. 124 f.

<sup>2</sup> There is one worth only  $37\frac{1}{2}$  (old) Kreuzer in the Augsburg Tariff, Lucius I, pp. 151 ff.

<sup>3</sup> *Heckenmünzenwesen*, p. 58, note 5.

When we finally come to the coinage activities of Count Gustav of Sayn-Wittgenstein and read v. Schrötter's account thereof<sup>1</sup> we cannot but wonder how it was ever possible to tell his good products from his bad without assaying every single piece, so thorough were his and his mintmasters' efforts to confuse the public and other governments. Good pieces there were, indeed, as v. Schrötter tells us and the City of Nuremberg told the Three Circles, but the bad outnumber them so vastly that the Three Circles originally simply meant to outlaw all the guldiner of Sayn-Wittgenstein.

Actually, we possess these products with a relative abundance of counterstamps proclaiming that they were not equal to the Leipzig standard, but we also possess a few of them with the Franconian and perhaps one with the COLN stamps. The illustrations to the memorandum of the City of Nuremberg show a great variety of designs and dates that are considered as up to the Leipzig standard, but all the pieces with the Franconian counterstamp known to the writer—those in his own collection and those in the sales catalogue of the Joseph Collection and other sales catalogues are of an identical design. They have on the obverse the bust of the count to the right and on the reverse a coat of arms with seven quarterings, the value 3, the legend TANDEM FORTUNA OBSTETRICE and—what is significant—the date in arabic numerals at the end of the legend. Conversely none of the 19 shown in Schedule IV of the Tariff of the Three Circles has this design.

No illustration of the piece with the COLN counterstamp—if, indeed, it has that counterstamp—is available.

It may, of course, be no more than a coincidence, but it may also indicate that the pieces of this design were most easily recognized as "good." And that is about all the evidence of the Franconian counterstamp permits us to say about the guldiner of Gustav of Sayn.

If we look at the coinage of all these four princes in the light of the counterstamping done by the two circles one thing strikes us at once. In all four cases the Tariff of the Three Circles was either contradictory in itself or in contradiction with the Nuremberg memorandum. In

<sup>1</sup> *Heckenmünzenwesen*, pp. 53 ff, 64 ff.

all cases also the examination revealed that there were good and bad specimens of the same or nearly the same design which we cannot now tell apart any more with any degree of certainty. The question suggests itself whether the authorities really could do so at the time, or at least whether the criteria were altogether the same in Nuremberg and in Cologne. We can't answer that question today directly, but to illustrate how rough and ready the judgment was at the time it might be interesting to look at the guldiner of Duke Julius Franz of Lauenburg.

Like those of his neighbor August Friedrich of Lübeck they come with only one date—1678, like his they continue to be struck with that date until much later, perhaps until 1689, like his they were originally coined on a standard superior to that of Leipzig but ended up on one much lower, like his, finally they come from a multitude of dies with slight variations in design. Dorfmann<sup>1</sup> has painstakingly examined this coinage and has classified it according to the variations in design into six types and has even given the silver content of each type and their chronological sequence. But when we turn to the evidence available from counterstamps what do we find? By merely consulting his own collection the writer finds the counterstamp of the Franconian Circle on each of Dorfmann's six classes except the fifth which is a scarce sub-variety of the fourth.<sup>2</sup> Why should this be so? Apparently, simply because this guldiner is illustrated in schedule I of the Tariff of the Three Circles. And not even the fact that it is also illustrated—and with no material difference in the design—in Schedule III prevented its counterstamping by the Circle. To make things even worse both illustrations show the obverse legend continuous—the one in Schedule III even making a special point of this, and yet according to Dorfmann only the sixth group, which has an average of 9.989g. of fine silver, has dies that do not interrupt the legend on the obverse.

The very least that can be deduced from such facts is that little or no effort was made in Nuremberg to tell good and bad guldiner of similar designs apart, and the same is true, if perhaps to a lesser

<sup>1</sup> Pp. 6ff.

<sup>2</sup> Dorfmann himself has a tabulation showing the first five classes with the Franconian counterstamp and the first four with the COLN stamp.



degree in Cologne where according to Dorfmann's indications the sixth class at least was not counterstamped. But then there are comparatively very few COLN stamps preserved and some of them are on the fourth class which also is of inferior value.

12. When we look at the guldiner with the various stamps affixed that were intended to show that to some unspecified degree they were inferior to the Leipzig standard we must expect that these stamps should not appear on pieces that by other stamps or by contemporary assays or tariffs are certified as of full value. The attached table shows that except for the already discussed case of the City of Hildesheim, the very variable Weimar pieces of 1677, and the totally confused coinage of Sayn-Wittgenstein this actually is the case and that in most instances the assays and tariffs actually confirm the inferior value of these pieces.<sup>1</sup>

13. The final class of counterstamped guldiner, those with a stamp actually expressing their value—which in all cases is inferior to the Leipzig standard—permit the same conclusions as the preceding class, but beyond that they also give us an opportunity to compare this value to other contemporary valuations and thereby get an estimate of how exact the valuations made for counterstamping purposes have actually been. Unfortunately there are not too many such guldiner around and some of them are on pieces of Gustav of Sayn where it is probably useless to make any comparative examinations of value.

The guldiner of August Friedrich of Lübeck of 1678, have already been discussed, but a few more words must be said of those of 1688. v. Schrötter<sup>2</sup> tells us that these guldiner were coined in 1688 and 1689 at Kaltenhof and were all below the Leipzig standard. He quotes from an assay by the General Warden of the Franconian Circle of 1691,<sup>3</sup> that these "newer" guldiner of the bishop of Lübeck had from 11.12 to 12.302g. of silver. Unfortunately this assay never quotes

<sup>1</sup> In addition to the instances shown in the attached schedule there is, e.g., also an edict of the City of Augsburg of March 27/17, 1691, that values the guldiner at Saxony-Eisenach of 1690 at 40 $\frac{3}{4}$ , those of Saxony-Römhild of 1687 at 40, those of Saxony-Meiningen of 1689 at 42 and those of Mecklenburg-Güstrow at 40 $\frac{3}{4}$  (old) Kreuzer (Lucius I, illustrated after p. 152).

<sup>2</sup> *Heckenmünzenwesen*, p. 76.

<sup>3</sup> *Heckenmünzenwesen*, pp. 102 f.

the date of any of the pieces examined and is thus of very limited value for comparative studies. In this case, however, it confirms the Cologne stamp on these 1688 guldiner since 48 Albus are equivalent to 11.693g. of silver.

Next we have a guldiner of Gustav Adolf of Mecklenburg-Güstrow of 1688, with the Cologne stamp for 46 Albus and the Jülich lion stamp. Forty-six Albus are equivalent to 11.206g. of silver and this comes very close to the value mentioned in the notification given by Duke Georg Wilhelm of Brunswick-Celle to the (Swedish) government in Stade in 1688, which says that Mecklenburg-Güstrow was minting according to a  $12\frac{1}{2}$ -taler standard.<sup>1</sup> This standard works out at 11.45g. of silver. On the other hand we have the Hamburg assay of the same coin that shows 11.730g. while the Three Circles put the coin in Class II. Regarding this latter classification we must always take into account that the Tariff of the Three Circles puts the coins in fixed classes which are necessarily determined by the value of the worst coin in them and must therefore contain coins of a higher value. The Mecklenburg-Güstrow pieces were thus simply not worth the full Leipzig value but had 10.827 or more grams of silver and had to go in Class II.

The guldiner of Friedrich of Saxony-Gotha with the large initial F on the obverse and the coat of arms on the reverse present a different problem. We possess a piece with the Jülich lion stamp and one with the Cologne stamp for 42 Albus which is equivalent to 10.232g. of silver. We also find the coin in Class III of the Tariff of the Three Circles which corresponds to a minimum value of 9.744g. and we have a Hamburg assay indicating 11.478g. On the other hand we find the piece in the Nuremberg memorandum as being of the full Leipzig value and in the valuation in Lucius at 50 $\frac{5}{8}$  Kreuzer which is even higher. According to Weise<sup>2</sup> these pieces come from 1675 until 1679, except for 1676. The arms on the reverse come in different designs and, what seems to be significant, the pieces come with and without the mintmaster initials GFS standing for George Friedrich Staude. The illustrations of the "good" pieces in the Nuremberg memorandum and in Lucius clearly show the initials, the illustrations

<sup>1</sup> *Heckenmünzenwesen*, p. 80.

<sup>2</sup> Nos. 1450-52.

of the "bad" ones in the Tariff of the Three Circles and in the Hamburg assay equally clearly do not.<sup>1</sup>

This would seem to tie in perfectly with the statement by v. Schrötter<sup>2</sup> that Staude ceased to be mintmaster in Gotha in 1680, but that the guldiner with the earlier dates continued to be coined thereafter and got "worse and worse until 1690." The mintmaster succeeding Staude could of course not continue to use Staude's initials, nor could he put his own on the coins since this would have shown up the predating of these coins. Thus they have no mintmaster initials at all.

The guldiner of Heinrich of Saxony-Römhild of 1691 exists with the Cologne stamp for 44 Albus equivalent to 10.719g. of silver. The Three Circles put them in Class III with a minimum value of 9.744g. and, indeed, they are just below the minimum value of 10.827g. of the second class. v. Schrötter<sup>3</sup> tells us that the coinage of these guldiner started in the Römhild Castle in 1690, and lasted until 1691, by far the most pieces bearing the 1691 date. He again quotes the assay by the General Warden of the Franconian Circle where the "older" pieces had 12.126g. There is no assay of the "newer" which those of 1691 must have been.

Finally we have a piece of Ludwig of Solms-Hohensolms without date with the Cologne counterstamp for 50 Albus equivalent to 12.181g. but also several with the counterstamp of the Franconian Circle. v. Schrötter<sup>4</sup> doubts Joseph's statement that the Solms guldiner were "among the better ones" and says that more research is needed concerning them. Actually the evidence of the counterstamps seems to clear up at least some of the questions. According to v. Schrötter only a few of the undated guldiner have the motto "HERR NACH DEINEM WILLEN." They are Joseph no. 285 and as there is a specimen with the Franconian counterstamp they must be presumed to be of the full Leipzig standard. They also appear in Schedule I of the Tariff of the Three Circles and the tariff in Lucius at a value of 50 Kreuzers. All other undated ones have the bust of count Ludwig to the right on the obverse and the coat of

<sup>1</sup> The piece Friederich no. 161 is not sufficiently described to permit determination whether or not it has initials and only its obverse is illustrated.

<sup>2</sup> *Heckenmünzenwesen*, pp. 57 f.

<sup>3</sup> *Heckenmünzenwesen*, p. 60.

<sup>4</sup> *Heckenmünzenwesen*, p. 69.

arms on the reverse. They are, however, of very different designs. One type has the legend around the bust between two circles and a legend around the arms. This is Joseph no. 292. The other has no such circles on the obverse and no legend around the arms on the reverse. These are Joseph no. 289-291. Joseph no. 292 is known with the Franconian and the COLN counterstamp and appears in the illustrations to the Nuremberg memorandum. Apparently these guldiner are good, too. Incidentally, in addition to one with a genuine Franconian counterstamp there is one in the writer's collection where this stamp seems to be a counterfeit similar to the ones Noss describes of Cologne counterstamps.<sup>1</sup> The pieces Joseph no. 289-291 can again be separated into no. 289 which bears the mintmaster initials IIF for Johann Jeremias Freitag and the other two that do not. The remarkable thing is that the Cologne stamp with 50 appears on Joseph no. 289, while no. 290 and 291 come with that of the Franconian Circle, and the illustrations to both the Nuremberg Memorandum and the Hamburg assay clearly show the absence of these initials. We are thus forced to conclude that the only "bad" undated guldiner of Ludwig of Solms are those with the initials of Freitag. This agrees quite well with Freitag's statement before a later Imperial Commission where he puts all the blame on the entrepreneur Gerson.<sup>2</sup> But then it must be remembered that these guldiner were coined in the late 1670's, perhaps a little later and were thus at that time all undervalue, even those that after the adoption of the Leipzig standard became acceptable. We can therefore not draw any very valid conclusions from Freitag's testimony, but the evidence given by the counterstamps and contemporary assays and tariffs seems pretty conclusive.

14. As pointed out earlier all conclusions in this paper, and particularly those in its last section are necessarily of a tentative nature because of the incompleteness of the material and we shall therefore close with an appeal that any counterstamps of the period not mentioned in this paper be communicated to the author, if possible.

HERBERT J. ERLANGER

<sup>1</sup> P. 253.

<sup>2</sup> *Heckenmünzenwesen*, p. 69.

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## THE COINS OF LUIS I OF SPAIN

(SEE PLATE XXII)

The coins of Luis I of Spain struck in Spanish-Colonial America are extremely rare. It is surprising that any were minted when the short rule of Luis is considered. He was the first son of Philip V by his first marriage and became king of Spain and its dominions upon the abdication of his father on January 10, 1724. He died on August 31st of the same year.

Coins of Luis I are known from the Mexico City mint in denominations of eight reales, four reales and one-half real only for the years 1724 and 1725. They are of the same design as the coins of Philip V and carry the assayer's sign D. No gold coins were being minted at Mexico at this time.<sup>1</sup>

At this time the mint in Lima was striking gold and pieces of eight escudos for Luis I dated 1725. The date alone is not enough to prove these as being coins of Luis, for as these gold coins were small in size, the legend is seldom included on the coin. However, on the example in the cabinet of the American Numismatic Society, the letters LVD. VI (for LUDIVICUS) are distinguishable (PLATE XXII, 1). It weighs 411.4 grains.

Also in the collection of the society are two examples of eight reales struck at Potosí mint in 1725. The first is a round coin, gilded and holed and weighing 427.5 grains (PLATE XXII, 2).

The legend reads: \*LVIS\*PRIMERO\*D\*G\*HISPA\*  
\*POTOSI\*ANO\*1725\*ELPERV

Another example of eight reales from the Potosí mint and dated 1725 was more recently acquired from Mr. M. J. A. Molony (PLATE XXII, 3). This piece is irregular cob shape, and from a different die. The legend is similar:

<sup>1</sup> A. F. Pradeau, *Numismatic History of Mexico* (Los Angeles, 1938). p. 57 and Pl. V, 12-13.



\*LVIS\*PRIMERO\*D\*G\*HISPA\*  
 .POTOSI.ANO.1725.ELP.

Both coins carry the assayer's sign Y. This coin weighs 374.1 grains.

When Mr. Molony acquired this piece he submitted a photograph to Sr. Humberto F. Burzio of Buenos Aires, the noted authority on the issues of the Potosí mint. This was Sr. Burzio's reply.

"... Coins of Luis I were struck in gold and silver, first in Lima, later in Mexico City and Potosí. The latter mint coined no gold of this ruler but did produce 8 reales pieces dated 1725, 1726 and 1727. They are extremely rare.

"The 1725 piece which you have is the third of the kind I have seen. A similar coins belongs to Miguel Vidal Pares and is dated 1725 and I have the other. Mine is a 1725 specimen, Potosí mint of regular circular shape, and has the king's title abbreviated as LVIS PR., rather than as spelled out.

"The Spanish numismatist Adolfo Herrera refers to a 1726 coin with the inscription LVIS PRIMERO, and another of 1727 with the abbreviated reading LVIS PR. This coin was part of the collection of Eduardo Kirchner of Buenos Aires."<sup>2</sup>

The Herrera pieces were illustrated as being from the collection of the Museo Arqueologico Nacional in Spain, which also contains the Mexican piece, Herrera No. 576 and Pl. XIV, No. 9. It is understood that another eight reales of Potosí dated 1726, on which the legend PRIMERO is spelled out in full, reposes in the collection of Mr. J. Douglas Ferguson of Rock Island, Quebec. Jose de Yriarte in *Catalogo de los Reales de a Ocho Espanoles*, (Madrid, 1955) illustrates eight reales of Mexico, round examples, No. 457 for 1724 and No. 459 for 1725. In the same work Nos. 460 to 462, Potosí mint examples for 1725, 1726 and 1727 are shown from Spanish collections.

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<sup>2</sup> Adolfo-Herrera, *El Duro*, Tomo I, p. 256, nos. 988, 989. Pl. XXII, Nos. 8 & 9. The writer questions the 1727 coin as being of that date. It would seem from the illustration that it was 1725 with the upper section of the 5 off the planchet. This happens frequently on the Potosí coinages when the numeral 5 appears, the shape of the punch being almost like a 7 in the lower part. When this occurs, it has been mis-read frequently.

## SOME ARAB-SASANIAN AND RELATED COINS

(SEE PLATES XXIII–XXIX)

Since the publication of *Rare Islamic Coins*,<sup>1</sup> in which several Arab-Sasanian coins not included in the British Museum catalogue of that class were described,<sup>2</sup> the Museum of the American Numismatic Society has acquired a considerable number of additional specimens. Many of these seem to the writer to be worthy of publication and for the sake of completeness all the Museum's accessions in this relatively uncommon category since 1949 are included in the present article. Furthermore the writer has received from Mr. M. Azizbeglou of Teheran photographs of a number of Arab-Sasanian and related rarities in his collection.<sup>3</sup> Mr. Azizbeglou has been kind enough to permit the writer to publish these coins and it is with grateful appreciation of this privilege that they are included here. Finally I have to thank Mr. E. Zygman for permission to describe a countermarked Sasanian coin in his collection.

It will be noted that the material described in the following pages falls into five related categories: A. Late Sasanian coins counter-stamped with marks similar to those on many Arab-Sasanian coins; B. Anonymous Arab-Sasanian coins; C. Arab-Sasanian coins bearing the names of Umayyad governors and revolutionaries; D. Arab-Sasanian coins of Ṭabaristān struck by 'Abbāsīd governors; and E. Late Hephthalite coins.

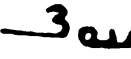
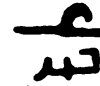

### A. COUNTERMARKED SASANIAN



1. Khosrau II. AHM = Ahmaḏān (Hamadhān). Year 29 = 618 A.D.

<sup>1</sup> *Numismatic Notes and Monographs* No. 118, New York, 1950. Hereafter abbreviated *RIC*.

<sup>2</sup> John Walker, *A Catalogue of the Arab-Sasanian Coins (A Catalogue of the Muhammadan Coins in the British Museum)*, London, 1941. Hereafter referred to as *B.M.*

<sup>3</sup> Some other remarkable pieces belonging to this collector were published by John Walker in *NC* 1952, pp. 106 ff.


*Obv.* Usual type of Khosrau II with  in 2nd quarter of margin. Countermarks: 1st quarter, ; 4th quarter, .

*Rev.* Usual fire-altar and attendants. At left, date: . At right, mint-signature: .

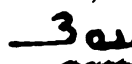

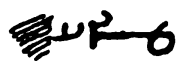

E. Zygman Coll., 32 mm., 3.73 grm. (PLATE XXIII)



The upper element in the countermark in the first quarter is similar to *B.M.*, p. cxlv, no. 21, a symbol which occurs on several published Arab-Sasanian coins in conjunction with nos. 1, 3, 4, 10, 11, 20, 23 and 39. The lower element, however, consisting evidently of three letters, appears to be hitherto unrecorded.

As for the countermark in the fourth quarter, it is identical with Walker's no. 2 or 3, with which nos. 1, 4, 5, 7-11 are related (some of these are probably identical but imperfectly preserved and hence given separate numbers).

Countermarked Sasanian coins, as opposed to Arab-Sasanian coins, are not common. Another example is no. 2, below. In Paruck's<sup>4</sup> plates I note a few countermarked coins, all of Khosrau II: nos. 454 and 462 with Walker's no. 10 or the like; no. 458 with no. 14; and no. 461 with the Hephthalite symbol , which regularly occurs (not as a countermark but on the die itself) in the margins of Arab-Hephthalite coins.

2. Khosrau II. AHM = Ahmaḍān (Hamadhān). Year 35 = 624 A.D.

*Obv.* Usual type of Khosrau II with  in 2nd quarter of margin. Countermarks: 1st quarter,  over another of the same or related type; 3rd quarter, the same, but one only; 4th quarter, a) , b) .

*Rev.* Usual fire-altar and attendants. At left, date: . At right, mint-signature: .

Azizbeglou Coll., 34 mm. (PLATE XXIV)

The countermarks in the first and third quarters are similar to *B.M.*, p. cxlv, no. 40, but the element at the left more closely re-

<sup>4</sup> F. D. J. Paruck, *Sāsānian Coins*, Bombay, 1924.

sembles that in the related countermarks nos. 28 and 34. These countermarks have been interpreted by Walker<sup>5</sup> as rendering in Hephthalite characters the name of 'Abdullāh (b. Khāzim), who governed Khurāsān, or was the effective rebel ruler in that province, at various times between 32 and 72 A. H. Ghirshman, however,<sup>6</sup> believes the reading to be essentially "ibn 'Abdallāh," and decides in favor of Umayyah b. 'Abdullāh, who was sent to govern Khurāsān in 74 A.H. I will not attempt to choose between these alternatives, but it is worth noting that the present Sasanian coin of Khosrau II invalidates Walker's assertion (based on the evidence available to him at the time) that these countermarks never appear on coins dated either before or after the period when 'Abdullāh b. Khāzim was governor in Khurāsān.<sup>7</sup> Also it should be remarked in this connection that we have here a clear instance of a coin from a western mint bearing one of these particular countermarks.<sup>8</sup> Also, with reference to the question of the occurrence of countermarks in general on Arab-Sasanian coins, while it is true, as Walker states,<sup>9</sup> that most of these marks appear on coins struck in Khurāsān, a tabulation of all the occurrences shows that a very considerable number are present on coins issued in the western provinces of Iran. For example, there are at least 28 issues of Bishāpūr with countermarks.<sup>10</sup> There is no doubt that Walker's implication is essentially correct, but it is equally clear that large numbers of coins struck in western mints circulated on the eastern frontiers.

There are two countermarks in the fourth quarter. The first is incomplete but obviously similar to Walker's no. 41 or his no. 47, both of which he reads, surely correctly, as Merv al-Rūdh. These two marks occur on coins of Merv, Merv al-Rūdh itself, Abrashahr

<sup>5</sup> *B.M.*, pp. lxxvii, cxlii-cxliv.


<sup>6</sup> R. Ghirshman, *Les Chionites-Hephthalites* (Cairo, 1948), p. 27.

<sup>7</sup> *B.M.*, pp. lxxvii and cxliv.

<sup>8</sup> Walker implies, p. lxxvii, that nos. 28, 34 and 40 occur only on coins struck at mints located in Khurāsān and the neighbourhood. Actually, in addition to the present specimen, there is another with countermark no. 34 (almost certainly), i.e., a coin of Baṣrah of 'Ubaydullāh b. Ziyād (*B.M.*, p. 57, no. 77).

<sup>9</sup> *B.M.*, p. cxlii.

<sup>10</sup> Walker's countermarks nos. 1, 3, 4, 7, 8, 10, 11, 14, 21, 29, a variant of 34 (*RIC*, no. 25), and another on the latter specimen.


and Herāt.<sup>11</sup> The Merv al-Rūdh countermark is never alone. It occurs in conjunction with one or more of the following: the very common horse-shoe shaped no. 14, the Hephthalite legends nos. 27, 33, 34 and 39, and the Pahlevi countermark , which Ghirshman<sup>12</sup> reads VRHRĀN (Bahrām) and takes to be the name of a minor Sasanian prince.


The second countermark in the fourth quarter is not entirely clear but appears to resemble Walker's no. 2 or 3, which occur in conjunction with related types depicting winged animal foreparts (nos. 1, 10 and 11), as well as with no. 14 and the symbol no. 21, which looks rather like an initial letter 'ayn.<sup>12a</sup>

### B. ARAB-SASANIAN, ANONYMOUS

3. Anonymous, type of Yazdgard III. SK (?) = Sijistān (?).  
Year 20 Y.E.<sup>13</sup> = 31 A.H. = 651 A.D.

*Obv.* Usual type of Yazdgard III. Traces of Arabic legend in margin, 2nd quarter.

*Rev.* Very crude fire-altar and attendants. At left, date: 

At right, mint-signature  (?), badly struck.

ANS (54.119), 30 mm., 3.08 grm. (PLATE XXIII)

If the mint-signature is correctly read the coin is similar to *B.M.*, p. 4, no. 3. Walker's suggestion<sup>14</sup> that SK (or SD) is to be interpreted as Sijistān (Sīstān) is the most acceptable that has been proposed.<sup>15</sup>

<sup>11</sup> Walker, p. cxliv, gives also Bishāpūr (a coin of 'Umar b. 'Ubaydullāh), but I do not find it in the catalogue proper.

<sup>12</sup> *Op. cit.*, p. 28.

<sup>12a</sup> Since this article was written another counterstamped specimen of Khosrau II, in the collection of Mr. Jesse Yockers, has come to my attention. It is an issue of the mint of Nihāvand (NIH), dated 31, with a stamp resembling Walker's no. 11, a griffin (?) to the left.

<sup>13</sup> Y.E. = Era of Yazdgard, beginning in 632 A.D.

<sup>14</sup> *B.M.*, p. cxxix.

<sup>15</sup> It is curious that R. Göbl in his important chapter entitled "Aufbau der Münzprägung" in F. Altheim and R. Stiehl, *Ein Asiatischer Staat* (Wiesbaden, 1954), pp. 84 and 92, omits SK from his list of Sasanian mint-signatures (or combines it with SD?), and adopts the older and unlikely interpretation, Sudd (?).

4. Anonymous, type of Khosrau II. SK = Sijistān. Year 28 Y.E.  
= 39 A.H. = 659 A.D.

*Obv.* Usual type of Khosrau II. \* left of crown, \* right, \* on shoulder at left, ∪ in front of chin, breast-ornament ∴.

Margin; 2nd quarter; بسم الله, 3rd quarter, ربي.

*Rev.* Usual fire-altar and attendants. \* left of flames, ∪ right. At left, date: سبعمائة. At right, mint-signature: حنظ.

ANS (53.9), 26 mm., 2.67 grm. (clipped) (PLATE XXIII)

5. The same.

Similar to no. 4, with the following differences: no ∪ in front of chin; date: سبعمائة.

ANS (52.183), 31 mm., 3.42 grm. (pierced) (PLATE XXIII)

It is interesting to note, with reference to the identification of the mint-signature, that this specimen was acquired in Afghanistan.

The only known specimen of this mint and date was one described by Thomas (not illustrated),<sup>16</sup> apropos of which Walker remarked that he had never seen an unmistakable example of the year 28 on Arab-Sasanian coins. I believe there can be no doubt about the reading on the present two specimens.

6. Anonymous, type of Khosrau II. Dimishq (Damascus). 72 A.H.  
= 691/2 A.D.

*Obv.* Usual type of Khosrau II. \* left of crown, \* right, \* on shoulder at left, breast-ornament ∴. Margin: 2nd quarter,

الله, 3rd quarter, محمد رسول, 4th quarter, الله.

*Rev.* Usual fire-altar and attendants. \* left of flames, ∪ right. At left, mint name in Kufic: دمشق. At right, date in Kufic: ثنتين

وسبعين.

Azizbeglou Coll., 33 mm., 3.65 grm. (PLATE XXIII)

Coins of this type struck in Damascus with mint and date in Kufic are known for the years 73 and 74,<sup>17</sup> but none has hitherto been

<sup>16</sup> *B.M.*, p. 8, no. T. 1.

<sup>17</sup> One of the year 73 described by Nesselmann (*B.M.*, p. 23, no. N. 1), and two of 74, of which one is in the Dickson collection (*B.M.*, p. 23, no. DD. 1) and the other in that of Dr. Paul Balog (*Spink's Numismatic Circular*, 1950, cols. 435-6).

described for the year 72. The specimens of 73 and 74 differ from that of 72 in that they have a longer marginal legend: **بسم الله لا اله الا الله**, **وحده محمد رسول الله**, and the positions of the mint name and the date are interchanged. Particular interest attaches to the present specimen in that it is the earliest of the interesting experimental dirhem types that led eventually to the Caliph 'Abd al-Malik's sweeping coinage reform.<sup>18</sup>

The next two specimens described below belong to this same general category.

7. Anonymous, exceptional type. No mint. No date.

*Obv.* Atypical Sasanian-type bust, right, with usual Pahlevi legends of Khosrau II to left and right of bust. Margin: 1st quarter, **بسم الله لا**, 2nd quarter, **له الا الله و**, 3rd quarter, **سول الله**, 4th quarter, **حده محمد ر**.

*Rev.* Spirally fluted arch or niche, with spear to which two ribbons are attached at left, in center. To left of spear: **نصر**. To right of spear: **الله**. To left of arch: **امير المؤمنين**. To right of arch: **خلفت الله**. Margin: 1st quarter, **هه**. Stars and crescents in margin have pellets on either side: **•\*•**.

Azizbeglou Coll., 33 mm., 3.50 grm. (PLATE XXIV)

8. The same.

*Obv.* In general similar to no. 7, but margin: 1st quarter, **بسم الله لا اله**, 2nd quarter, **و الا الله**, 3rd quarter, **حده محمد ر**, 4th quarter, **سول الله**.

*Rev.* In general similar to no. 7, but **امير المؤمنين** (letter omitted for lack of space), and margin: 1st quarter, **هو**.

Azizbeglou Coll., 32 mm., 3.70 grm. (PLATE XXIV)

<sup>18</sup> These transitional types are discussed in an article of mine referred to in the next footnote and in J. Walker, "Some new Arab-Sassanian Coins," in *NC*, 1952, pp. 106-110.

This very remarkable issue, hitherto known in one specimen only, preserved in the American Numismatic Society, has been described and discussed at length in the Herzfeld Memorial Volume,<sup>19</sup> to which the reader is referred for details and for a suggested interpretation. The obverse of no. 7 differs from that of the ANS specimen only in minutiae; it is however from a different die. The reverse die is identical with that of the ANS. The obverse of no. 8, aside from the difference in the distribution of letters in the first two quarters of the margin, shows more of the elaborate chest ornamentation (?) and also reveals a flame-like interior to the globe replacing the usual star and crescent above the crown. The differences in the reverse of no. 8, including the letters in the first quarter of the margin, which look more like Kufic than Pahlevi but which could be either, are noted in the description above. It is interesting to note that the die-engraver changed the position of the ribbons. The columns and arch are excellently preserved on this specimen; one is able to distinguish much more detail in the capitals and bases.

Although some readers have taken exception to my interpretation of the iconography and symbolism of this issue, especially with respect to the meaning of the arch, there has I think been agreement on the part of the majority with the thought that we have here a *mihrāb*, or prayer-niche, signifying Islam and replacing the Zoroastrian fire-altar, and the *'anazah*, or short spear, of the Prophet Muḥammad, which came to have a ritual meaning and significance as representing both the temporal and the spiritual leadership of the "Commander of the Believers."

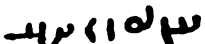
The acquisition of these two specimens by Mr. Azizbeglou is an excellent example of the evanescence of "uniqueness" in numismatics; and it is noteworthy that there were at least three obverse dies and two reverse dies of this experimental issue.

<sup>19</sup> G. C. Miles, "Mihrāb and 'Anazah: A Study in early Islamic Iconography," in *Archaeologica Orientalia in Memoriam Ernst Herzfeld* (N.Y., 1952), pp. 156-171. The ANS specimen was first illustrated in *B.M.*, p. 24, no. ANS. 5.



C. ARAB-SASANIAN,  
WITH Umayyad Governors' Names

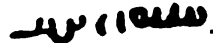
a) 'Abdullāh b. Zubayr (at Darabjird)

9. 'Abdullāh b. Zubayr. DA = Darabjird. Year 51 Y.E. = 63 A.H. = 682 A.D. In every respect similar to *B.M.*, p. 33, no. ANS 7, but date: 

ANS (51.148), 30 mm., 3.81 grm. (PLATE XXIV)

This issue appears to be unpublished. Coins of the counter-Caliph 'Abdullāh b. Zubayr struck at Darabjird are known for the Y.E. years 53, 54, 56, 57, 59 (see below), and 60. Only one earlier issue of his is known: Kirmān, 62 A.H.

10. The same. Year 53 Y.E. = 65 A.H. = 684 A.D.

Similar to *B.M.*, p. 33, no. ANS 7. Date: 


ANS (53.9), 31 mm., 4.06 grm. (PLATE XXIV)

11. The same. Year 53 Y.E. = 65 A.H. = 684 A.D.

Different dies.


ANS (53.9), 32 mm., 4.01 grm.

12. The same. Year 56 Y.E. = 68 A.H. = 687 A.D.

Similar to *B.M.*, p. 34, no. Z. 2. Crescent left, star right of flames. Date: 


ANS (51.181), 29 mm., 3.71 grm.

13. The same. Year 56 Y.E. = 68 A.H. = 687 A.D.


As no. 12, but breast ornament .•., and • in reverse margin to right of ☼ at top. Date: 

ANS (53.9), 33 mm., 4.07 grm. (PLATE XXIV)

Pellets such as the one in the reverse margin of the above coin, and others described below, appear to have been made with a punch on the die itself. The slight depression of metal around the pellet suggests the possibility that the punch was applied on the coin, but close examination and comparison with the pyramids of pellets appearing on obverse margins, where similar depressions occur, convinces me that this is not the case. Are these single pellets perhaps inspectors' marks stamped on the die after approval?



Incidentally it might be worthy of notice that these single pellets to right or left of one or another of the star and crescent ornaments in the reverse margin occur *only* on coins of Darabjird.<sup>20</sup> The same observation applies to the Pahlevi legend , which is found only to right or left of the top star and crescent. At Bishāpūr occasionally there is a pellet in the reverse margin, but well-removed from the star and crescent; and at some other mints, especially Merv, pellets occur in pairs in the reverse, so •❄•; and at others ❄❄ (Herāt) and sometimes pyramids of pellets. The latter would appear to me to be ornamental, as they certainly are on the obverse of so many coins; but the single pellets and the Pahlevi letters on the coins of Darabjird seem to have a distinctly administrative significance.

14. The same. Year 56 Y.E. = 68 A.H. = 687 A.D.

As no. 12, breast-ornament ❄❄, star left, crescent right of flames, pellet in reverse margin as on no. 13. Date: .



ANS (54.119), 31 mm., 3.85 grm.

15. The same. Year 56 Y.E. = 68 A.H. = 687 A.D.

As no. 12, star left, crescent right of flames; obscure, partially obliterated letters in 4th quarter of reverse margin: . Date: .


ANS (53.9), 32 mm., 4.06 grm. (PLATE XXIV)

16. The same. Year 57 Y.E. = 69 A.H. = 688 A.D.

Similar to *B.M.*, p. 34, no. 45, but breast-ornament ❄❄, no pellet beneath Kufic legend in obverse margin, crescent left, star right of flames,  to left of ❄ at top of reverse margin. Date: .

ANS (54.111), 30 mm., 4.07 grm. (PLATE XXIV)

17. The same. Year 59 Y.E. = 71 A.H. = 690 A.D.




Similar to the preceding, breast-ornament ❄❄, nothing left or right of flames, • right of ❄ at top of reverse margin. Date: .

ANS (53.38), 30 mm., 4.13 grm. (PLATE XXV)

This date also appears to be hitherto unpublished.



<sup>20</sup> But see no. 33, below.

18. The same. Year 60 Y.E. = 72 A.H. = 691 A.D.

Similar to *B.M.*, p. 35, no. Th. 6, breast-ornament ••, crescent left, star right of flames,  left of altar, • left of  at top of reverse margin. Date: .



ANS (53.9), 30 mm., 4.08 grm. (PLATE XXV)

19. The same. Year 60 Y.E. = 72 A.H. = 691 A.D.

As no. 18, breast-ornament •• (?), no letter left of altar, • right of  at top of reverse margin. Date: .

ANS (49.163), 31 mm., 3.52 grm. (pierced)

20. The same. DARAV (?) = Darabjird. Year 60 Y.E. = 72 A.H. = 691 A.D.

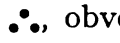


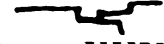
Similar to *B.M.*, p. 35, no. 47, breast-ornament ••, crescent left, star right of flames. Mint-signature: . Date: .

ANS (51.181), 29 mm., 3.96 grm. (PLATE XXV)

The mint-signature here is fairly close to Walker's no. 21, which appears to read DARAV, but one element is lacking. The British Museum specimen is described as bearing mint-signature no. 21, but the illustration I believe shows it to be the same as here.

#### b) Ziyād b. abi-Sufyān

21. Ziyād b. abi-Sufyān. BISH = Bishāpūr. 54 A.H. = 673/74 A.D.

Similar to *B.M.*, p. 39, nos. 55, B. 8 and 56: breast-ornament ••, obverse margin  ربي, star left, crescent right of flames. Date: . Scratched (Pahlevi?) graffiti in reverse margin: 2nd quarter, ; 3rd quarter, .

ANS (51.181), 31 mm., 3.30 grm. (PLATE XXV)

The *B.M.* catalogue descriptions of this issue are confusing; no. 56, for example, is certainly not to be compared with no. 48, which is a coin of 'Abdullāh b. al-Zubayr. For this reason the ANS specimen is described in full.

22. The same. DA = Darabjird. Year 41 Y.E. = 52/53 A.H. = 672/73 A.D.

Similar to *B.M.*, pp. 40-41, nos. 58-61, etc.: breast-ornament

••, ear-ring ••, ☪ over true left shoulder, star left, crescent right of flames, • in 3rd quarter of reverse margin \*☪. Date:

سمرک

ANS (54.111), 31 mm., 3.82 grm. (PLATE XXV)

c) *Samurah b. Jundab*

23. Samurah b. Jundab. DA = Darabjird. Year 41 Y.E. = 52/53 A.H. = 672/73 A.D.

*Obv.* Usual bust of Khosrau II. Breast-ornament: ••; on each shoulder ☪, above true left shoulder ☪, left of crown \*, right of crown ☪, usual legend behind head, name in front:

سمرک  
سمرک

SMRA-I ZUNDAPAN.

Margin: •• ☪ •• بسم الله ••

*Rev.* Crescent left, star right of flames. At right, mint-signature.

At left, date: سمرک

ANS (51.148), 31 mm., 3.84 grm. (PLATE XXV)

This coin is described in full because while in general similar to *B.M.*, p. 46, nos. M. 26 and Sch. 2, the mint-signature is DA rather than DAP (or DAR, as Walker reads it), and furthermore the only coin of Samurah's, so far as I know, that has hitherto been illustrated photographically is one in the White King sale, from which a drawing was reproduced in *B.M.*, p. 46.<sup>21</sup> This latter and the other specimen described there have ☪ in the reverse margin to the left of ☪ at the top.

24. The same. DAP = Darabjird. Year 41 Y.E. = 52/53 A.H. = 672/73 A.D.

*Obv.* In every respect similar to the preceding, except for ear-ring: ☪

*Rev.* Star left, crescent right of flames. At right, mint-signature:

سمرک

(as on specimen cited above). Date as on preceding. In margin ☪ to the right of ☪ at top.



ANS (53.9), 31 mm., 3.95 grm. (PLATE XXV)

<sup>21</sup> See *B.M.*, p. 183, for Walker's deductions regarding the reverse of this specimen.

## d) 'Ubaydullāh b. Ziyād

25. Ubaydullāh b. Ziyād. DA = Darabjird. Year 43 Y.E. = 55 A.H. = 674 A.D.


Similar to *B.M.*, p. 63, no. 90 (year 45), breast-ornament ❦.

Date: . In margin  to left of ❦ at top.

ANS (51.185), 30 mm., 3.94 grm. (PLATE XXVI)

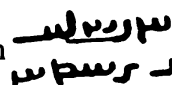

The only specimen of 'Ubaydullāh b. Ziyād of this date at Darabjird is one listed in *B.M.*, p. 62, no. M. 41. This coin was never reproduced and Walker was therefore unable to determine whether the date was actually 43 or 41. I believe that the date on the present specimen is clearly 43.

26. The same. Year 45 Y.E. = 57 A.H. = 676 A.D.

Similar to *B.M.*, p. 63, no. 90, but no  in reverse margin.



ANS (51.185), 30 mm., 3.80 grm.

27. The same. Year 46 Y.E. = 58 A.H. = 677 A.D.

Similar to *B.M.*, p. 63, no. B. 15, but name written   
and date .

ANS (51.181), 31 mm., 3.84 grm.

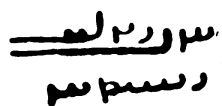


28. The same. Year 48 Y.E. = 60 A.H. = 679 A.D.

Similar to *B.M.*, p. 63, no. I. 30, but date written   
and  in reverse margin to left of ❦ at top.

ANS (53.9), 31 mm., 4.05 grm. (PLATE XXVI)

29. The same. Year 50 Y.E. = 62 A.H. = 681 A.D.

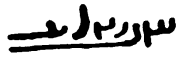

Similar to the preceding, but breast-ornament ❦, name written



. Date: . In reverse margin  to left of ❦ at top.

ANS (51.148), 31 mm., 3.95 grm. (PLATE XXVI)

No specimen of 'Ubaydullāh's of the year 50 at Darabjird has hitherto been published.


30. The same. Year 52 Y.E. = 64 A.H. = 683 A.D.

Similar to *B.M.*, p. 64, no. P. 4, but name written:   


Date: . No  in reverse margin.

ANS (54.111), 31 mm., 3.84 grm. (PLATE XXVI)



31. The same. NB = Nihāvand (?). 58 A.H. = 677/78 A.D.

Similar to *B.M.*, p. 67, no. I. 33 (not illustrated). Date: .

ANS (53.69), 30 mm., 3.73 grm. (PLATE XXVI)

Walker reads this mint-signature as Nihāvand. I am not at all convinced that this is correct, but I have no alternative suggestion. Göbl (*op. cit.*, p. 91) considers it unidentified.

32. The same. No mint-signature. 56 A.H. = 675/76 A.D.

Similar to *B.M.*, p. 72, no. B. 22, but no Pahlavi legend in 1st quarter of obverse margin, AFZUT written , star left, crescent right of flames. Date: .


ANS (51.108), 26 mm. (clipped), 2.72 grm. (PLATE XXVI)

The lack of a mint-signature and the substitution of the word AFZUT on this issue and on another of the year 57 (*B.M.*, p. 73, no. ETN. 16) is one of the unsolved puzzles of Arab-Sasanian numismatics.

33. The same. Uncertain mint, BSH (?) = Bishāpūr (?). 57 A.H. = 676/77 A.D.

*Obv.* Breast ornament , crescent over true left shoulder, name

written . In second quarter of margin: .

*Rev.* Star left, crescent right of flames. Mint-signature: .

Date: . In margin pellet to right of  at top.


ANS (54.119), 27 mm. (clipped), 2.87 grm. (PLATE XXVI)


Coins bearing the same equivocal mint-signature and the dates 51 or 59(?), 58, 59 and 60 are listed in *B.M.*, p. 61. The presence of the pellet in the reverse margin suggests the possibility of Darabjird as

the mint (see the observations under no. 13, above), but aside from the fact that the letters could be read DA(?) only in desperation, one would be faced with the difficulty of reconciling these coins with known ones of Darabjird of the same Hijrah dates written in Y.E. terms. The date here can only be in the Hijrah era.

34. The same. BĴRA = Baṣrah. 60 A.H. = 679 A.D.

Similar to *B.M.*, p. 58, no. 83-84, but countermarks:

1st quarter: evidently similar to *B.M.* countermark no. 14, but with a word  (?) beneath.

2nd quarter: partly obliterating Kufic marginal legend, . (no equivalent in *B.M.*).

3rd-4th quarters: *B.M.* countermark no. 27, 33 or 39.


Date: .

Azizbeglou Coll., 34 mm. (PLATE XXVII)

The new countermark has a distinctly Hephthalite appearance.

e) 'Abd al-Raḥmān b. Ziyād

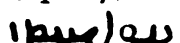

35. 'Abd al-Raḥmān b. Ziyād. NHR = Nahr-Tīrā. 54 A.H. = 673/74 A.D.

Similar to *B.M.*, p. 85, no. 153.<sup>22</sup> Date: .

ANS (54.119), 25 mm. (clipped), 2.30 grm. (PLATE XXVII)

f) 'Abdullāh b. Khāzim

36. 'Abdullāh b. Khāzim. APRSHT = Abrashahr. 65 A.H. = 684/85 A.D.

Similar to *B.M.*, p. 87, no. B. 28, but mint-signature more clearly written: . Date: .

ANS (54.119), 28 mm (clipped and frg. lacking), 2.86 grm. (PLATE XXVII)

g) 'Umar b. 'Ubaydullāh

37. 'Umar b. 'Ubaydullāh. NIH (?) = Nihāvand (?). 72 A.H. (?) = 691/92 A.D. (?).

<sup>22</sup> The description of that specimen is confusing; the reference to no. 152 should be deleted.

Similar to *B.M.*, p. 102, no. B. 35 (dated 69), but no pellet over true left shoulder, marginal legend :اللهحمد, letters or symbol in 3rd quarter obscure but not the same as B. 35. Mint-signature: •س. Date: ططططط (?).

ANS (49.163), 28 mm. (clipped), 2.95 gr.

The date is badly worn, but I believe it is 72. Certainly the decade is 70.

h) *Khālīd b. ‘Abdullāh*

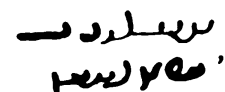
38. Khālīd b. ‘Abdullāh. BISH = Bishāpūr. 71 A.H. = 690/91 A.D.

Similar to *B.M.*, p. 108, no. 213, different dies, but very close.

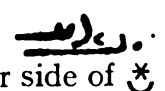
Azizbeglou Coll., 33 mm. (PLATE XXVII)

39. The same. BJRA = Baṣrah. 75 A.H. = 694/95 A.D.

Similar to *B.M.*, p. 109, no. So. 1, but details as follows:

*Obv.* Breast-ornament :•, ear-ornament :•, name 

marginal legend, 2nd quarter :اللهحمد, 3rd quarter محمد  
الله, pellet at left of \* at right.

*Rev.* Mint-signature: . Date: ططططط. Pellet in margin on either side of \* at top.

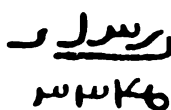
Azizbeglou Coll., 33 mm. (PLATE XXVII)

The specimen described and illustrated by a line drawing in the *B.M.* catalogue is clipped and hence incompletely preserved.

i) *Bishr b. Marwān*

40. Bishr b. Marwān. ATRA = Adherbayjān (?). Date?


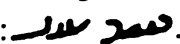
*Obv.* Usual type, breast-ornament :•, ear-ring :•, name

. Margin: 1st quarter, ط; 2nd quarter, :اللهحمد;


3rd quarter, رسول الله.

*Rev.* Exceptional type: 3 standing bearded figures, central one facing with hands upraised in attitude of prayer, the other two on either side facing toward him; star left, crescent



right of head of central figure; at right, mint-signature (slightly double-struck) ; at left, date (?): . Triple beaded border, outside of which the usual four stars and crescents.

Azizbeglou Coll., 33 mm., 4.00 grm. (PLATE XXVII)

This remarkable coin is in general similar to two others in Mr. Azizbeglou's collection published by John Walker in *NC*, 1952, pp. 106–107, nos. 1 and 2, the first of ATRA, year 73, the second of BĠRA (Baṣrah), year 75. The present specimen differs from the published one of ATRA in several respects: details of ornamentation, arrangement of the governor's name, obverse marginal legend (longer in the published specimen), date (?), and arrangement of the reverse borders (stars and crescents between the outer and second borders on the published specimen). In the obverse margin of the coin struck at Baṣrah there are Pahlevi letters which Walker transcribes as  (AN?), but in the plate I seem to detect a fairly close resemblance to the letters on the present piece, which look more like RIN or RIV (or is the first letter B?).

Walker<sup>23</sup> mentions the existence of another specimen of Bishr b. Marwān struck at Baṣrah in 75 A.H. in the National Museum in Istanbul, but he had not seen it and was unable to verify whether it had the same exceptional reverse type. In 1948 Bay Ibrahim Artuk was kind enough to send me a pencil rubbing of this coin, and I am able to confirm that it is virtually identical with Mr. Azizbeglou's specimen, although evidently from different dies.

As for the date on the present piece, I can unfortunately make nothing of it. It would have to be in the seventies (if Hijrah), but there is certainly no seventy here; nor does a reading in the Yazdgard or post-Yazdgard era appear possible. One wonders if it is a date. Incidentally there is another specimen of this rare and controversial mint with a quite unintelligible inscription in the date position.<sup>24</sup> The identification of the mint-signature as Adherbayjān must, in my opinion, remain very dubious, especially in the light of these coins with the unusual reverse types.

<sup>23</sup> *NC*, 1952, p. 107, and *B.M.*, p. lix, footnote 2.

<sup>24</sup> *B.M.*, p. 124, no. Th. 18.

j) *Humrān b. Abān*

41. *Humrān b. Abān*. ART = Ardashīr-Khurrah. 72 A.H. = 691/92 A.D.

Similar to *B.M.*, p. 110, no. Cam. 13, but different dies and better preserved.

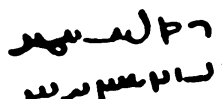
ANS (53.9), 31 mm., 3.96 grm. (PLATE XXVII)

Only four coins of this governor were hitherto known, all of Ardashīr-Khurrah, 72 A.H., but of two varieties, one of the present type, the other with *Humrān's* name in Arabic as well as in Pahlavi.<sup>26</sup>

k) *Al-Qaṭari b. al-Fujā'ah*


42. *Al-Qaṭari b. al-Fujā'ah*. TART = Ardashīr-Khurrah (?). 75 A.H. = 694/95 A.D.

Similar in general to *B.M.*, p. 113, no. I. 47 (Zaranj, 75 A.H.), but details as follows:

*Obv.* Breast-ornament .∴, name . Margin: 2nd

quarter, لا حکم الا لله; in 3rd quarter, to left of ☉ a pellet.

*Rev.* Star left, crescent right of flames. At right, mint-signature:

• ط م پ. At left, date: .

ANS (53.9), 30 mm., 4.00 grm. (PLATE XXVIII)

The rare coins of this governor are known<sup>28</sup> from the mints of Bishāpūr (69 and 75 A.H.), Darabjird (75 A.H.) and Zaranj (75 A.H.); and also from Ardashīr-Khurrah (again of the year 75), but the latter with the standard mint-signature ART, not the still somewhat controversial TART, which Walker<sup>27</sup> suggests was the same as ART "with an added prefix of uncertain value." The present coin is therefore unique. The known coins of TART are those of 'Abd al-'Azīz b. 'Abdullāh b. 'Āmir (71 A.H.), al-Muhallab b. abi-Ṣufrah (76 A.H.), and al-Ḥajjāj b. Yūsuf (78 and 80 A.H.).

<sup>26</sup> *B.M.*, pp. 110 and 196: Osman Aridağ Collection, Fitzwilliam Museum, Istanbul Museum.

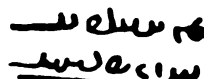


<sup>28</sup> *B.M.*, pp. 112-113.

<sup>27</sup> *Ibid.*, p. cxxx.

1) *Al-Muhallab b. abi-Şufrah*

43. Al-Muhallab b. abi-Şufrah. BISH = Bishāpūr. 76 A.H. = 695/96 A.D.



Similar to *B.M.*, p. 114, no. 224, but name written:

 and the Pahlevi letters in the obverse margin appear to be , not quite as illustrated and transcribed in *B.M.*, p. 114, no. 221. Date: .

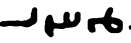
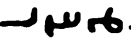
ANS (54.119), 32 mm., 3.25 grm. (pierced) (PLATE XXVIII)



m) *‘Abd al-Raḥmān b. Muḥammad*

44. ‘Abd al-Raḥmān b. Muḥammad. BISH = Bishāpūr. 81 A.H. = 700/01 A.D.

*Obv.* Usual bust, breast-ornament , ear-ring , usual Pahlevi



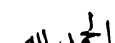


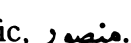
legends behind head, name in Kufic: . Margin: 2nd quarter, .

quarter, ; 3rd quarter, .

*Rev.* Usual type. Star left, crescent right of flames. Mint-signature: . Date: .

Azizbeglou Coll., 32 mm. (PLATE XXVIII)

45. The same. BISH = Bishāpūr. 81 A.H. = 700/01 A.D.

Similar to no. 44, but breast-ornament , ear-ring . Obverse margin: 2nd quarter, , 3rd quarter, . Mint-signature: as no. 44. without pellet. Date: . In 1st quarter of reverse margin, in Kufic, .

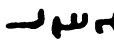

Azizbeglou Coll., 30 mm., 3.45 grm. (PLATE XXVIII)

These two remarkably interesting issues are unpublished. Only two coins of ‘Abd al-Raḥmān b. Muḥammad b. al-Ash‘ath were hitherto known, one of Bishāpūr, 82 A.H.,<sup>28</sup> and one of Darabjird, 70 Y.E. = 82 A.H.<sup>29</sup> On both of these the name of the governor is

<sup>28</sup> *B.M.*, p. 117, no. I. 50 (Istanbul Museum, recent accession).


<sup>29</sup> *Ibid.*, p. 117, no. Mar. 3 (Asiatic Institute, St. Petersburg).

written in Pahlevi, whereas Mr. Azizbeglou's two coins present the name in Arabic. It is curious that the die-engraver at Bishāpūr should have reverted to Pahlevi in 82 when he had used Kufic in 81. However, the same thing occurs in the series of al-Ḥajjāj b. Yūsuf at Bishāpūr: there are issues of 76–79 inclusive with his name in Kufic, then one of the latter year in Pahlevi, followed by later issues again in Kufic.<sup>30</sup> The explanation perhaps would be found in the assumption that there was more than one engraver and that the new Kufic characters were not known to all.

Particularly worthy of note are the additional marginal legends on the present specimens:  in Pahlevi in the third quarter of the obverse in both instances, and  in Kufic (upside-down with reference to the fire-altar and attendants) in the first quarter of the reverse on no. 45. I would like to suggest that the Pahlevi inscription is to be read MNSUR and that it is a transliteration of the Arabic *Manṣūr*, which latter is present in Kufic on the second specimen. As for the significance, one might suppose that the word, meaning of course "victorious", has reference to 'Abd al-Raḥmān's successful revolt against al-Ḥajjāj during which the latter's forces were forced out of Fārs and actually lost Kūfah and Baṣrah for a short period.<sup>31</sup>


n) *Al-Ḥajjāj b. Yūsuf*

46. Al-Ḥajjāj b. Yūsuf. BISH = Bishāpūr. 78 A.H. = 697/98 A.D.

Similar to *B.M.*, p. 119, nos. 234–5, date written:  (sic).

ANS (51.108), 32 mm., 4.11 grm. (PLATE XXVIII)

47. The same. BISH = Bishāpūr. 79 A.H. = 698/99 A.D.

Similar to *B.M.*, p. 120, no. 237, different dies, date written: .

ANS (53.9), 29 mm., 3.86 grm. (PLATE XXVIII)


<sup>30</sup> Of course an additional "tooth" would change the date of the Istanbul specimen from 82 to 81; if the coin is worn at this point this is a possibility, but as the specimen is not illustrated I cannot urge the point.

<sup>31</sup> Cf. *Encyclopaedia of Islām*, s.v. 'Abd al-Raḥmān b. Muḥammad, and *B.M.*, pp. lxiii–lxiv.



48. The same. BISH = Bishāpur. 83 A.H. = 702 A.D.  
Similar to *B.M.*, p. 120, no. 240, but no point under final *jīm*  
of name. Date: **سنة ثمان وثمانين**.  
ANS (51.181), 32 mm., 3.56 grm. (PLATE XXVIII)
49. The same. TART = Ardashīr-Khurrah (?). 78 A.H. = 697/98  
A.D.  
Similar to *B.M.*, p. 121, no. B.38, different obverse die, re-  
verse die possibly the same. Date: **سنة ثمان وثمانين**.  
ANS (51.185), 32 mm., 3.93 grm. (PLATE XXIX)

## D. ARAB-SASANIAN, 'ABBĀSID GOVERNORS OF TABARISTĀN

a) 'Umar b. al-'Alá

50. 'Umar b. al-'Alâ. Ṭabaristân. Year 124 P.Y.E.<sup>32</sup> = 159 A.H. = 775 A.D.  
Similar to *B.M.*, p. 135, no. 263. Date:   
ANS (49.40), 25 mm., 1.90 grm (PLATE XXIX)

b) *Yahyâ*

51. Yahyâ. Ṭabaristân. Year 130 P.Y.E. = 165 A.H. = 781 A.D.  
Similar to *B.M.*, p. 143, no. O.9, letter before date indistinct,  
perhaps different.  
Azizbeglou Coll., 26 mm. (PLATE XXIX)
52. Yahyâ. Ṭabaristân. Year 130 P.Y.E. = 165 A.H. = 781 A.D.  
Similar to *B.M.*, p. 143, no. O.9, with following differences:  
legend in obverse margin, 3rd quarter  (as on *B.M.*,  
p. 143, no. I.54, of year 129), date: .  
ANS (55.90), 24 mm., 1.97 grm.

c) *Sulaymān*

53. Sulaymān. Ṭabaristān. Year 137 P.Y.E. = 172 A.H. = 788 A.D.  
Similar to *B.M.*, pp. 144-145, nos. 285-287, but neck-ornamentation differs (see plate).  
ANS (49.40), 24 mm., 1.99 grm. (PLATE XXIX)

<sup>32</sup> P.Y.E. = Post-Yazdgard era, beginning in 652 A.D.

## 54. The same.

As above, neck-ornamentation differs (see plate).

ANS (49.40), 23 mm., 2.05 grm. (PLATE XXIX)

d) *Ma'add*55. *Ma'add*. Ṭabaristān. Year 138 P.Y.E. = 173 A.H. = 789 A.D.

Similar to *B.M.*, p. 146, no. 290, but star left, crescent right

of flames. Date: .

Azizbeglou Coll., 25 mm. (PLATE XXIX)

Only two specimens of this issue have been published, one in the British Museum and one in the Zubov Collection.<sup>33</sup>

e) *'Abdullāh*56. *'Abdullāh*. Ṭabaristān. Year 140 P.Y.E. = 175 A.H. = 791 A.D.

Similar to *B.M.*, pp. 150–151, nos. 300, etc., crescent left, star right of flames.

ANS (52.183), 24 mm., 2.27 grm. (PLATE XXIX)

f) *Anonymous*

## 57. AFZUT in place of name. Ṭabaristān. Year 134 P.Y.E. = 169 A.H. = 785 A.D.



Similar to *B.M.*, p. 155, nos. 306, etc., but breast-ornament \* ; ornaments left and right of flames uncertain.

ANS (55.90), 25 mm., 1.85 grm.

## E. HEPHTHALITE

## 58. Tarkhān Nīzak (?). Mint and date?


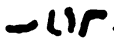
*Obv.* Bust of type of Khosrau II, right, enclosed by double beaded border. Breast-ornament: ☉. Star left and right of crown; star and crescent on each shoulder. Behind head:

 = AFZUT? In front of head: . In margin, beginning in 1st quarter and continuing to end of


<sup>33</sup> Cf. *B.M.*, p. 210.

2nd: ; in 3rd quar-

ter •• to left of ☞; in 4th quarter, to left of wings, a pellet.

*Rev.* Fire altar and attendants, enclosed by triple beaded border, four stars and crescents and outer beaded border. Pellet left and right of flames. In field to left, ; to right, .

Azizbeglou Coll., 31 mm., 3.50 grm. (PLATE XXIX)

This remarkable coin is in many but not all respects similar to a coin in the Hermitage illustrated by Dorn and Paruck in the form of a drawing and reproduced photographically by Ghirshman.<sup>34</sup> On that specimen the legend behind the head differs somewhat but would seem to be essentially the same in intent. The inscription in front of the head is the same as here, but Ghirshman transcribes . However, unless I am mistaken the additional element is not part of the inscription but a small crescent. He reads this *bage x<sup>a</sup>atāi*, and translates "divin seigneur."<sup>35</sup> The legend in the margin is the same as that on the present specimen, with minor differences in the configuration of the letters and with the addition of •• at the end to the right of ☞. This legend Ghirshman transcribes (ŠAH)O TAPAKA/NICATA, and translates "(du roi) Tarkhān Nizak." The reverse legends on the two specimens are different. Ghirshman reads HVR (for "Khorāsān") at the left and *hftč(hl)* (for "47") at the right. Both are possible, but I should say by no means certain, readings. The date he interprets as being in the Hijrah era. Certainly neither of the legends on the reverse of Mr. Azizbeglou's specimen can be read in this manner, but I lack the courage to suggest readings for them.

It is my judgment that more specimens of this type are needed before one can with any confidence give specific mint and date attributions to these coins. Meanwhile students will be grateful to Mr. Azizbeglou for making this excellently preserved specimen available for examination.

59. Uncertain ruler. Mint? Date?

Imitation of dirhem of Hormizd IV (?).

<sup>34</sup> *Op. cit.*, pl. III, 2 and p. 23, fig. 24 (line-drawing).

<sup>35</sup> *Ibid.*, pp. 23-24.

*Obv.* Crude bust, right. Illegible inscriptions. Single beaded border. Countermarks in border: 3rd quarter, foreparts of griffin (Walker's no. 1, 2 or 3); 4th quarter, ع (Walker's no. 21).

*Rev.* Crude fire-altar and attendants. Star left, crescent right of flames. At left, date (?): ١١٥٠ (?). At right, mint-signature (?): ٥٠٠٠ (?).

ANS (45.74), 31 mm., 3.29 grm. (PLATE XXIX)

The attribution of this coin is uncertain in every respect. One cannot even be sure that the prototype is a coin of Hormizd IV, whose coinage was at least on one occasion imitated by the Arabs.<sup>36</sup> Before its acquisition by E. T. Newell this specimen was offered for sale by Schulman of Amsterdam,<sup>37</sup> who described it as a Georgian imitation, but these Georgian imitations are quite different.<sup>38</sup> One thing is clear: the coin was countermarked after the Arab invasion of Khorāsān, for the two stamps are similar to ones appearing on many Arab-Sasanian coins.<sup>39</sup>

GEORGE C. MILES

<sup>36</sup> Cf. *B.M.*, pp. 24, 178.

<sup>37</sup> J. Schulman, *Monnaies Orientales*, 30 March 1914, no. 362, illustrated in plate I.

<sup>38</sup> Cf. David M. Lang, *Studies in the Numismatic History of Georgia in Transcaucasia* (NNM, No. 130, N.Y., 1955), p. 12.

<sup>39</sup> Cf. nos. 1-2, above.





## CHEMICAL COMPOSITION OF SOME EARLY DIRHEMS

This is a report of the results of an investigation into the chemical composition of ten early dirhems, all of which were duplicates from the collection of the American Numismatic Society. Eight of the coins were issued at various scattered mints under Umayyad caliphs, one was issued in Spain after the fall of the Umayyad kingdom, and one in 'Irāq under the 'Abbāsids. The particular mints<sup>1</sup> and dates of the coins are listed in Table I. Listed also are the weights and aver-

TABLE I  
LIST OF COINS ANALYZED

<i>Serial No.</i>	<i>Mint</i>	<i>Date</i>	<i>Weight Grams</i>	<i>Dia- meter Milli- meters</i>
1	Wāsiṭ	85 H. = 704 A.D.	2.83	13.0
2	Darabjird	92 H. = 710-711 A.D.	2.76	12.5
3	Kirmān	95 H. = 714-715 A.D.	2.73	13.0
4	Al-Baṣrah	100 H. = 718-719 A.D.	2.83	12.5
5	Dimishq	100 H. = 718-719 A.D.	2.81	14.5
6	Ifriqiyyah	112 H. = 730-731 A.D.	2.94	14.5
7	Al-Andalus	118 H. = 736 A.D.	2.93	13.0
8	Wāsiṭ	124 H. = 741-742 A.D.	2.86	13.0
9	Al-Andalus	161 H. = 777-778 A.D.	2.74	15.0
10	Madīnat al-Salām	188 H. = 803-804 A.D.	2.94	12.5

<sup>1</sup> Wāsiṭ: roughly midway between Baghdād and al-Baṣrah on the Tigris. Darabjird: in southern Persia (Fārs), southeast of Shīrāz. Kirmān: in south-central Persia near the Great Desert. Al-Baṣrah: now the port of Basra at the head of the Persian Gulf. Dimishq: Damascus. Ifriqiyyah: Qayrawān in Tunisia. Al-Andalus: Cordoba in Spain. Madīnat al-Salām: Baghdād, capital of the 'Abbāsīd empire.

age diameters of the coins. All these coins were in fine to very fine condition. The first nine listed were coated with a greyish to black tarnish, but the remaining one was untarnished and appeared to have been cleaned at some time.

All the experimental work of this investigation was done in the author's laboratory under his supervision by Mr. Sabri Michael Farroha, a native of Bagdad. The procedures that were used have previously been described.<sup>2</sup> Before cutting the coins into samples for chemical analysis, their specific gravities were determined before and after electrolytic cleaning. The results are shown in Table II.

TABLE II

## RESULTS OF SPECIFIC GRAVITY MEASUREMENTS

<i>Serial No.</i>	<i>Specific Gravity Before Cleaning</i>	<i>Specific Gravity After Cleaning</i>	<i>Observed Increase</i>
1	10.31	10.33	0.02
2	10.44	10.49	0.05
3	10.42	10.50	0.08
4	10.29	10.47	0.18
5	10.39	10.57	0.18
6	10.35	10.49	0.14
7	10.42	10.56	0.14
8	10.54	10.62	0.08
9	10.50	10.53	0.03
10	10.62	10.62	0.00

The observed increases in specific gravity after cleaning are undoubtedly due to the removal of corrosion products of relatively low specific gravity from the surface. It will be noticed that the specific gravity of No. 10, which evidently had already been cleaned, was the same before and after electrolytic cleaning. The specific gravity of this coin and the specific gravities of four of the others after cleaning are remarkable because they exceed the normal value

<sup>2</sup> Caley, Earle R., *Chemical Composition of Parthian Coins*, NNM, No. 129, New York, 1955.

of 10.50 for pure silver. However, these high results may at least be partly explained from the results of the chemical analyses. Samples for these analyses were obtained by cutting each cleaned coin into quarters of approximately equal weight. Usually one quarter of each coin was used for preliminary or confirmatory tests, and two quarters were independently analyzed for the components common to all the coins. The results are shown in Table III. Each figure is an average of the results of two closely agreeing determinations, except of course for the general averages of all the results. The satisfactory agreement of the individual determinations and the closeness of the summations to 100.00% are a strong indication that the analyses are both accurate and fairly complete.

From Table III it will be seen that the silver content of all these coins was found to be very high, the average being over 95%. Furthermore, there is a general trend to a higher percentage with increase in time, which is very unusual for any series of coins minted over a period of a century. The gold content is within the range found for other series of ancient or medieval coins of high fineness. Undoub-

TABLE III

## RESULTS OF CHEMICAL ANALYSES

<i>Serial No.</i>	<i>Silver %</i>	<i>Gold %</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Total %</i>
1	91.49	0.62	6.16	0.05	1.58	0.05	99.95
2	92.73	0.66	4.25	0.12	1.85	0.18	99.79
3	94.15	0.67	3.56	0.10	1.48	0.10	100.06
4	91.17	0.42	6.36	0.10	1.63	0.09	99.77
5	95.58	1.35	2.24	0.07	0.68	0.07	99.99
6	98.06	0.70	0.84	0.10	0.42	0.05	100.17
7	94.21	0.60	3.96	0.05	1.10	0.06	99.98
8	98.46	0.06	0.23	0.01	1.10	0.04	99.90
9	98.02	0.04	1.21	0.02	0.71	0.06	100.06
10	99.24	0.04	0.22	0.06	0.42	0.06	100.04
Av.	95.31	0.52	2.90	0.07	1.10	0.08	99.98

tedly, all the gold in these coins was introduced fortuitously as an impurity in the silver. The same is probably true of most of the lead. Hence the intended silver content of these coins was appreciably higher than that found by chemical analysis. If all the gold and only half the lead were introduced along with the silver then the intended silver content of the coins was as shown in Table IV. The figures must be considered minimum estimates since it is very likely that all the lead and the small proportions of copper, tin, and iron, as well, were unrecognized impurities in the silver used for minting, and that the real intent of the coiners was to strike all these coins in pure silver.

TABLE IV

ESTIMATED MINIMUM INTENDED SILVER CONTENT OF THE COINS

<i>Serial No.</i>	<i>Silver %</i>
1	92.9
2	94.3
3	95.6
4	92.4
5	97.3
6	99.0
7	95.4
8	99.1
9	98.4
10	99.5
	Av. = 96.4

The increase in actual silver content with time is the most unusual characteristic of this series of coins. It is most clearly evident in the two pairs of coins struck at different times at the same mint, as may be seen from Table V. There is still some possibility that chemical analysis of many more specimens of dirhems of this period would show that this observed increase is merely an accidental effect arising from the analysis of only a few specimens not really representative,

TABLE V

RISE IN SILVER CONTENT WITH TIME IN COINS STRUCK  
AT THE SAME MINT

<i>Mint</i>	<i>Date</i>	<i>Actual Silver Content %</i>	<i>Minimum Intended Silver Content %</i>
Wāsiṭ	85 H.=704 A.D.	91.5	92.9
„	124 H.=741-742 A. D.	98.5	99.1
Al-Andalus	118 H.=736 A.D.	94.2	95.4
„	161 H.=777-778 A.D.	98.0	98.4

though this does not seem very likely. It seems more likely that the observed increase reflects a real change in composition produced by some definite cause or causes. One cause might be a change in the sources of the silver, so that a purer metal became available at a later time. Another might be the melting down of worn coins to provide metal for new coins, since such remelting would oxidize the base metals to some extent and lead to an increase in the proportion of silver. However, a serious objection to such melting down as the sole, or even an important, cause of this increase is that there is no corresponding general increase in the proportion of gold. On the contrary, the proportion of gold in the two latest coins is exceptionally low. A more likely cause is that some improved method for producing silver of high quality was discovered and put into practice at some time in the period covered by this series of coins. However, the increase in silver content with time is after all not very great. In view of their issue from widely scattered mints over a period of a century, the general similarity of these coins in chemical composition is remarkable.

In Table VI is shown a comparison of the observed specific gravities of the cleaned coins with the theoretical specific gravities as calculated from the chemical analyses by a method previously described by the

author.<sup>3</sup> It will be seen that the theoretical specific gravities actually do rise above 10.50, the usual specific gravity of pure silver, for those coins that contained the higher proportions of gold, lead, or both. In view of the rather small weights of these coins, the agreement between the observed and theoretical figures is about as good as might be expected.<sup>4</sup>

TABLE VI  
OBSERVED AND THEORETICAL SPECIFIC GRAVITY OF THE CLEANED  
COINS

<i>Serial No.</i>	<i>Observed Specific Gravity</i>	<i>Theoretical Specific Gravity</i>	<i>Difference</i>
1	10.33	10.42	—0.09
2	10.49	10.50	—0.01
3	10.50	10.47	+0.03
4	10.47	10.41	+0.06
5	10.57	10.52	+0.05
6	10.49	10.52	—0.03
7	10.56	10.46	+0.10
8	10.62	10.51	+0.11
9	10.53	10.48	+0.05
10	10.62	10.49	+0.13
Av. =			+0.04

In Table VII is shown a comparison between the intended fineness as determined by chemical analysis and the fineness as estimated by specific gravity for both the uncleaned and cleaned coins. It will be seen that the agreement is sufficiently good to enable detection of any debasement. Hence by means of specific gravity measurements it would be possible to test, without harm to the coins, a large number of dirhems in order to determine decisively whether the conclusions of this report as to their high fineness are generally valid.

<sup>3</sup> *Op. cit.*, pp. 55-56.

<sup>4</sup> *Op. cit.*, pp. 49-50.

TABLE VII

SPECIFIC GRAVITY AS A MEASURE OF THE FINENESS OF DIRHEMS

<i>Serial No.</i>	<i>Minimum Intended Fineness By Analysis</i>	<i>Estimated Fineness Uncleaned Coins</i>	<i>Error</i>	<i>Estimated Fineness Cleaned Coins</i>	<i>Error</i>
1	929	895	—34	910	—19
2	943	970	+27	995	+52
3	956	960	+ 4	1000	+44
4	924	885	—39	985	+61
5	973	940	—33	1000	+27
6	990	920	—70	995	+ 5
7	954	960	+ 6	1000	+46
8	991	1000	+ 9	1000	+ 9
9	984	1000	+16	1000	+16
10	995	1000	+ 5	1000	+ 5

EARLE R. CALEY





## THE BILINGUAL COINS OF HETOUM I, (1226-1270) KING OF CILICIAN ARMENIA

(SEE PLATE XXX)

It was mentioned in a previous article<sup>1</sup> that the coinage of the Armenian dynasty of Cilicia (1080-1375) was studied only to a limited extent and there were a number of problems that awaited solution. The present paper attempts to bring forth the historical events which shed light on the "raison d'être" of the bilingual coins of Hetoum I, the existence of which has never been satisfactorily explained.

The coins in question were all issued by Hetoum I (1226-1270). They are somewhat scarce, and of the two or three thousand silver coins of Hetoum in existence, less than five per cent are of the bilingual type. All of these coins are silver,<sup>2</sup> the styling and workmanship showing a greater degree of care than most of the other coins belonging to Hetoum. The weight is about three grams and the silver content as determined by specific gravity is over 90%,<sup>3</sup> as are all the silver coins of Hetoum. Bilingual hemidrachms were also issued, but they are extremely rare, and only a few specimens are known.

All of these coins can be divided into two classes, those of Hetoum-Kaiḵobād<sup>4</sup> and on the latter's death, of Hetoum-Kaikhusraw. It is known that Hetoum reigned from 1226 to 1270; Kaiḵobād from 1219

<sup>1</sup> Paul Bedoukian, "Coinage of Constantine III and IV, Kings of Lesser Armenia," *A.N.S. Museum Notes* VI, 1954, pp. 193-199.

<sup>2</sup> Dr. A. Der Ghazarian of Aleppo, Syria, claims to have a unique copper bilingual coin of Hetoum, of a type different from the silver coins. (Private communication).

<sup>3</sup> E. R. Caley, "Estimation of Composition of Ancient Metal Objects. Utility of Specific Gravity Measurements," *Analytical Chemistry*, XXIV (1952), p. 676.

<sup>4</sup> The spelling of Islamic names is in conformity with the *Encyclopaedia of Islam* (London) 1927. In spelling the Christian names, either Armenian or Latin, the accepted Anglicized forms appearing in *A History of the Crusades*, University of Pennsylvania Press, Philadelphia, 1955, have been adopted.

to 1236, and Kaikhusraw from 1237 to 1245. The coins of Hetoum-Kaiḵobād bear no date but they were probably first struck late in 1228 or early in 1229, following the signing of a treaty between Hetoum and Kaiḵobād. Those of Hetoum-Kaikhusraw bear not only the Islamic date on the Arabic side, but also the name of the mint of Sis. These were struck annually. The earliest date is 635 A.H. (1237 A.D.), the year of Kaikhusraw's accession to the throne, and the last date, 643 A.H. (1245 A.D.), marks the outbreak of war between the Armenians and the Seldjuks, and Kaikhusraw's death.

On the Armenian side of the Hetoum-Kaiḵobād coins, the king is on horseback facing right, and holding a scepter. The inscription "Hetoum, King of the Armenians," does not vary, and in all of the coins known to date, the lettering is uniform. The usual all-Armenian silver coins of Hetoum show innumerable variations in the writing and spelling of this inscription. In the field there are one or more crosses and sometimes a crescent or a star.

The legend on the Armenian side reads:

ՀԵՐՈՒՄ	HETOUM	HETOUM
ԲԱԳԼԱՒՈՐ	TAKAVOR	KING
ՀԱՅՈՑ	HAIOTZ	OF THE ARMENIANS

It is noteworthy that on all of the Hetoum-Kaiḵobād coins, the last two letters in the word Takavor are separate, whereas on all of the Hetoum-Kaikhusraw coins, the last two letters of Takavor are joined as shown below. This fact is of considerable importance since it serves to distinguish one type from the other.

There are two varieties of Arabic legend on the reverse. One reads:

السلطان المعظم	The exalted Sultān
كيقاد بن كيكسرو	Kaiḵobād son of Kaikhusraw

The word *bin*, "son of", is generally written beneath the second line. There are no marginal legends. A specimen of this type (author's collection) is illustrated in PLATE XXX, 1.

The other type reads:

السلطان	The Sultān
المعظم علا الدين	the exalted, Glory of the Faith,
كيقباد بن كا	Kaiḡobād son of Ka-
نخسرو	ikhusraw

The name of Kaikhusraw is curiously spelled with an *alif* and is divided into two lines. Again there are no marginal legends. A specimen of this type (ANS Collection) is illustrated in PLATE XXX, 2.

A hemidrachm of Hetoum-Kaiḡobād appears in Sibilian<sup>5</sup> and is shown in PLATE XXX, 3.

Since there are no dates on the coins of Hetoum-Kaiḡobād, it is difficult to classify them chronologically. Comparison of these coins with Seldjūk coins of Kaiḡobād does not suggest a solution to this problem since legends both with and without the honorific occur throughout his reign.

The various mint marks in the field probably denote periods when these coins were struck and may serve as a basis of classification.

The coins belonging to Hetoum-Kaikhusraw show a greater degree of artistic care in their design and workmanship. As seen from the accompanying illustrations, they are somewhat larger than the Hetoum-Kaiḡobād coins, but being thinner, the weight is again about three grams and the silver content is over 90% as calculated by specific gravity determinations.

On the Armenian side the King is on horseback facing right and holding a scepter, very much as on the coins of Hetoum-Kaiḡobād. The inscription and field marks are again the same but as mentioned previously, the word Takavor is different, having the last two letters joined.

ՀԵՐՈՒՄ	HETOUM	HETOUM
ԲԱԳԱՒՈՐ	TAKAVOR	KING
ՀԱՅՈՑ	HAIOTZ	OF THE ARMENIANS

<sup>5</sup> C. Sibilian, *Classification of Roupenian Coins* (Vienna, 1892) p. 79, Fig. 44. (in Armenian)

The Arabic side of these coins reads:

السلطان الاعظم	The most exalted Sulṭān,
غياث الدنيا والدين	Aid of the World and the Faith,
كيخسرو بن كيقباد	Kaikhusraw son of Kaiḳobād

The mint name, Sis, and the digit of the date (where the date contains a digit) appear at the top, the decade at the left, and the final conjunction and century at the right, all spelled out in words. Specimens of this type, dated 637 and 639 A. H. (author's collection), also 640 A. H. (ANS collection) respectively, appear in PLATE XXX, 4, 5, 6.

A specimen of the hemidrachm with identical legends, but the date off the flan (author's collection) is illustrated in PLATE XXX, 7.

These bilingual coins have led many Western authors, including Langlois,<sup>6</sup> de Morgan<sup>7</sup> and Cahen<sup>7a</sup> as well as the *Encyclopaedia of Islam*<sup>8</sup> and *Islam Ansiklopedisi*<sup>9</sup> to assume that Armenia at that time was subject to the ruler of Konya. On the other hand, Armenian authors including Sibilian<sup>5</sup> and Basmadjian<sup>10</sup> have insisted that these coins were struck to commemorate the proclamation of a treaty of friendship with mutual commercial advantages. It is interesting that neither Grousset<sup>11</sup> nor Runciman<sup>12</sup> in their classic treatises on the Crusades say anything about the dependence of Armenia to the Seldjuk. We shall endeavor to clarify the point as much as is possible in the light of existing documents.

Throughout the entire period of the Crusades, and of the Armenian

<sup>6</sup> V. Langlois, *Numismatique de l'Arménie au Moyen Age*, Paris, 1855.

<sup>7</sup> Jacques de Morgan, *Histoire du peuple arménien*, Paris, 1919. Also English translation by E. F. Perry, Boston, (no date, 1949?).

<sup>7a</sup> C. Cahen, *La Syrie du Nord à l'époque des Croisades*, Paris, 1940.

<sup>8</sup> *Encyclopaedia of Islam*, II, London (1927) pp. 636–641, under Kaikā'ūs I, Kaiḳobād I, and Kaikhusraw II.

<sup>9</sup> *Islam Ansiklopedisi*, Istanbul (1954), pp. 627–651, under Keykavus I, Kaykubad I and Keyhusrev II.

<sup>10</sup> K. J. Basmadjian, *Numismatique generale de l'Arménie*, Venice, 1936. (in Armenian).

<sup>11</sup> R. Grousset, *Histoire des Croisades*, 3 vols. Paris, 1936.

<sup>12</sup> S. Runciman, *A History of the Crusades*, 3 vols. Cambridge University Press, 1951–1954.

kingdom of Cilicia, the political situation was very complex and subject to sudden changes. It was not unusual for a treaty to be discarded at the first opportunity. Nor were Christians reluctant to seek the support of the Mohammedan in fighting a Christian adversary. Political expedience as always governed the actions of all rulers.

To give a clearer picture of the conditions and events leading to the issuance of the bilingual coins, it is perhaps best to cite historical events in chronological order.

In 1211, Leon I, the first crowned ruler of Cilician Armenia, invaded the lands of Kaikā'ūs I, Seldjūk Sultan of Konya, in alliance with the sultan's uncle, Tughrilshah of Erzerūm. Leon captured Eregli and Laranda and laid siege to ẖaisāriya (Caesarea) but consented to withdraw upon receiving a large sum of gold from Kaikā'ūs.<sup>13</sup>

Following this there was peace between the Seldjūks and the Armenians for a few years. In the latter part of 1216, Kaikā'ūs, taking advantage of the fact that the aged Leon had fallen ill, gathered a large army and laid siege to the strong fort of Gaban in northeast Cilicia. This action was apparently responsible for the eventual appearance of the bilingual coins. The Armenians were badly defeated, although there is some confusion as to the exact conditions leading to the defeat. According to Sempad,<sup>13</sup> the governor of the fort, Baron Leon, defended the fort courageously and sent to the king for assistance. The king himself being sick, sent his troops under the command of Constable Constantine. The army included the Baille Adan and many other notables who represented the flower of the Armenian nobility. In the ensuing battle, Constantine defeated the sultan and pursued the retreating army. The Seldjūks, however, turned on Constantine whose troops had become separated from the part of the army under Baille Adan. The second battle proved disastrous to the Armenians. Many of their leaders, including the Constable Constantine and other princes and knights, were taken prisoner. Sempad says that the Baille Adan did not take part in this second fight.<sup>13</sup>

<sup>13</sup> Sempad, *Recueil des Historiens des Croisades. Documents Armeniens*, Vol. 1 (Paris, 1869) p. 644.

<sup>13\*</sup>

In the face of these developments, according to Vahram,<sup>14</sup> Leon gathered fresh troops and began ravaging the land of the Sultan. The Sultan on his part, seeing Leon's action and unable to capture Fort Gaban, was, according to Sempad<sup>15</sup> fully satisfied by the number of high ranking prisoners he had captured and returned to his country saying "That's enough for me." It is quite possible that Leon's action was designed to raise the siege of Gaban and perhaps even more important, to raise the spirit of his troops and country after their overwhelming defeat at the hands of the enemy.

Ibn Bibi, the Persian historian at the court of the Seldjūks, relates a second incursion of the Seldjūks. Some time later, in 1219, after the death of Kaikā'ūs, his brother Kaiḳobād ascended the throne and sent an army into Cilicia. According to Ibn Bibi,<sup>15</sup> the army of Kaiḳobād, under the command of Mobariz ed-Din and the Comnene (of Trebizond) attacked the strong Armenian fort of Činčīn. The defenders of the fort sent to Leon for assistance. The latter's forces were defeated and the king barely escaped with a few followers. Ibn Bibi mentions that many Franks were among the prisoners. The fort surrendered and envoys from Leon soon appeared asking for peace and offering to make a treaty whereby Leon would agree to send annually one thousand horsemen and five hundred archers to the sultan as a contribution to his wars. Leon also promised to issue coins bearing the name of the sultan. The sultan accepted these terms and withdrew after annexing the province of Činčīn to his kingdom.

It is interesting that this account of Ibn Bibi seems to have escaped the attention of numismatists discussing Hetoum's bilingual coins. Even more curious is the fact that none of the contemporary historians mentions this episode, nor is there any reference to a promise to strike bilingual coins in any other volumes of *Recueil des Historiens des Croisades* (Historiens Grecs, Historiens Occidentaux, Historiens Orientaux).

According to Sempad,<sup>15</sup> the prisoners remained with the Sultan

<sup>14</sup> Vahram, *Recueil des Historiens des Croisades*. Documents Armeniens, Vol. I (Paris, 1869), pp. 513-516.

<sup>15</sup> Ibn Bibi, Trans. by H. Massé, *Revue des Etudes Armeniennes*, Vol. IX, pp. 113-117, Paris, 1929. The original in Persian as published by M. T. Houtsma, *Recueil de textes relatif a l'histoire des Seljoucides* Holland (1886-1902), was consulted and checked by Mr. Tiryakian.

for sixteen months until Leon obtained their freedom by ceding to the Sultan the fortresses of Lu'lu'a and Lawzad. Vahram<sup>14</sup> merely says that the Sultan made peace with the king and returned the prisoners to him. Others mention<sup>16</sup> that the Sultan returned the prisoners for a small ransom and concluded a treaty with the king. The son of the Constable Constantine says that "the king wanted his good vassal in preference to all other wealth and after the king's death, the Constable rendered a hundred fold back in service to the king's daughter, Isabel."

No bilingual coins of Leon are in existence, possibly because Leon died shortly after the conclusion of the treaty, or because of a deliberate attempt to ignore the treaty.

Leon died on May the second, 1219. He left an infant daughter Zabel (Isabel) as his only heir. The Baille Adan was the seneschal and Constable Constantine her attendant at the palace. Not long afterward, the Baille Adan was murdered by a member of the Assassin sect. Some thought that the murder was at the instigation of Constantine who blamed Adan for his defeat and captivity by Kaikā'ūs.

The struggles for succession began. One of the pretenders was Raymond-Roupen of Antioch who had the support of the Pope. He had been rejected by Leon as his successor because of some earlier disagreements. Raymond-Roupen managed to find a few adherents and established himself at Tarsus. The Constable Constantine, however, who was now the sole regent, succeeded in defeating the pretender's forces and capturing Raymond-Roupen in early 1221. The prisoner died the following year.

During this period, Kaiḳobād took advantage of the internal troubles of the Armenians and captured the fort of Galonoros from the Armenian lord, Kyr Vart.<sup>13</sup> He advanced on Seleucia held by the Hospitallers who were vassals of the Armenian king. The combined Armenian and French forces prevented its capture.

The regent Constantine then offered the throne to Philip, the fourth son of Bohemond of Antioch. No doubt the regent felt that an alliance with Antioch would serve as a deterrent to Kaiḳobād. The eighteen year old Philip was made to promise that he would accept the liturgy

<sup>14</sup> L. M. Alishan, *Leon le Magnifique* (Venice, 1888), pp. 297-301.



of the Armenian church, abide by the regulations of the court, and make no attempt to introduce Latin customs. A year or two after his marriage, Philip began to disregard his promises and replaced many of the Armenians at court with Latins. When it was also discovered that he was secretly transporting the royal treasures to his father in Antioch, the outraged Armenian princes seized the young king and imprisoned him in the fortress of Til-Hamdoon late in 1224, refusing to release him until the royal treasures were returned. His selfish father would not comply and Philip died in prison not long afterward.

Bohemond of Antioch could do little. He had been excommunicated by the Pope and neither the Templars nor the Hospitallers would assist him. According to Ibn al-Athīr<sup>17</sup> Bohemond made an alliance with Kaiḫobād and the two plotted to invade Armenia together. The sultan invaded Cilicia in late 1225 and captured several fortresses. Constantine called on the Emir Tughril of Halab (Aleppo) to assist him by attacking the lands of Bohemond while the latter's forces were engaged in Armenia. Tughril complied and Bohemond was forced to turn back to protect his land without having accomplished anything.

Constantine had now become the real ruler of the land. He obtained the consent of the Catholicos, the head of the Armenian church, and of the majority of the Barons of Armenia, of whom there were over sixty, to marry his son to Zabel. Constantine belonged to the Hetoumian family, the second most powerful house in the land after the Roupenians who had ruled the country for over a century. The Hetoumians in the past had been the pro-Byzantine party and as such were often in active conflict with the Roupenians. The marriage combined the two families and had a stabilizing influence on the turbulent history of Cilician Armenia. At the time of their marriage, Hethoum was eleven years old and Zabel, nine. Three sons and five daughters were born to the couple during their long reign.

The coronation took place the fourteenth of June, 1226. Seven years had passed since the death of Leon. During this period there had been no coinage of Philip. It is quite likely that the coinage of Leon was continued and some of the barbaric style coins of Leon

<sup>17</sup> R. H. C. *Doc. Armeniens*, Footnote p. 517, Paris, 1869.

belong to this period. It is significant that no bilingual coins were issued during this period. In the interim, as mentioned above, Kaiḳobād had twice taken the opportunity to invade Cilicia and captured some of the westernmost territory. One is forced to conclude that either the Armenians ignored any treaty made by Leon, or else that Ibn Bibi's account has no historical basis.

In 1228 Kaiḳobād again invaded Cilicia, this time with the assistance of the Armenian Lord of Lampron, and captured the Mediterranean port of Alaya, which he later converted to his winter resort.

The wise Constable Constantine now felt that it would be in the interest of his country to make peace with its neighbors. It would not do for a small country to be constantly warring against the powerful Seldjūks and be on bad terms with the Crusader principalities. Guiragos of Kantzag<sup>18</sup> writes of Constantine that "he made peace and established amity with the Sultan of Roum Aleddin (Kaiḳobād)." Sempad<sup>13</sup> further says that Constantine established friendship with the Pope of Rome, the Emperor Frederick of Germany (Leon had been crowned as a liege of the Emperor), and with Aleddin (Kaiḳobād).

Vincent de Beauvais<sup>19</sup> has the following passage which apparently refers to the treaty made between Hetoum and Kaiḳobād: "Furthermore, the king of lesser Armenia shall owe the sultan of Turkey, the service of 300 knights for four months of the year; he shall also cause the law of Mohammed to be proclaimed once a year in his capital, and of the coins which he causes to be struck in his country, one half shall belong to the Sultan."

In view of Beauvais' statement, it would appear that Constantine thought it prudent to honor in part the treaty Leon had made with Kaiḳobād. The absence of struggles from 1228 to 1245 between the Seldjūks and the Armenians and the appearance of bilingual coins strongly support this thesis. It is unfortunate that no written record of a treaty between Hetoum and Kaiḳobād has reached us.

It would be a mistake to regard the treaty as anything more than a temporary measure to secure peace. Only a small proportion of the coins struck during this period were of the bilingual type. As to the

<sup>18</sup> Guiragos of Kantzag, R. H. C. Doc. Armeniens, Vol. I, (Paris, 1869), p. 429.

<sup>19</sup> Vincent de Beauvais, *Speculum historiale*, liv. XXX, ch. 145, Douais, 1624.

agreement to assist the Sultan in his wars, subsequent events proved that Hetoum acted quite independently, there being just one doubtful instance of military help.

In 1230, the Khwarizmian ruler, Djalāl al-Dīn, captured the great city of Khilāt from al-Ashraf of Damascus. Al-Ashraf made an alliance with Kaiḡobād and the combined forces fought and defeated Djalāl al-Dīn near Arzandjān. Of the contemporary historians, only one mentions that the Armenians took part in this war. Guiragos of Kantzag<sup>20</sup> states that Kaiḡobād called on the army of the Armenians in Cilicia and of the Franks by the sea for assistance. The Armenian and French forces numbered less than a thousand and can only be considered a token force.

In 1242 the Mongols began attacking the lands of Kaikhusraw, the successor of Kaiḡobād. Realizing the great danger, Kaikhusraw felt the need to strengthen his ties with Armenia. Aboul-faraj<sup>21</sup> mentions that Constantine went to the sultan in Kaisāriya (Caesarea) (late 1242 or early 1243) and that "he was received with great honor and he collected many gifts and he promised to go and call together many Armenians and come to the help of the Sultan."

Constantine, however, had seen the terrible power of the Mongols and felt it safer to remain neutral until the outcome of the fight was more definite. No Armenian forces were sent to aid the Sultan. The Seldjūks were routed and the Mongols put an end to the Seldjūk dynasty shortly thereafter. Aboul' faraj says that when the Sultan's mother saw the destruction of the Seldjūk forces "she took her daughter, the Sultan's sister, and her hand-maidens and her treasures and she took refuge with Baron Constantine." Other contemporary writers agree with this or suggest that the Sultan himself sent his women to Cilicia for safekeeping.

As the Mongols advanced deep into Asia Minor, Hetoum deemed it wise to seek their friendship. The Mongol leader Baidju demanded the Sultan's mother and sister as a condition for sparing Cilicia from the horrors of an invasion. According to Guiragos of Kantzag<sup>22</sup> Hetoum was greatly saddened and cried that he would prefer to

<sup>20</sup> Guiragos of Kantzag, *History* (Venice, 1865), p. 120, (In Armenian).

<sup>21</sup> *The Chronography of Bar Hebraeus*, E. A. W. Budge, p. 407 (Oxford, 1932).

<sup>22</sup> Guiragos of Kantzag, *History* (Venice, 1865), p. 156. (In Armenian).

give his sons rather than surrender his guests. He did, however, of necessity, hand over the Sultan's family, thereby incurring of course Kaikhusraw's anger. It is significant that the last date of the bilingual coins is 1245 when a fight broke out between Kaikhusraw and Hetoum.

In revenge the Seldjûks made further incursions into Cilicia in 1245 and 1246. In the latter year Kaikhusraw died and shortly thereafter the Mongols destroyed the Seldjûks as an independent kingdom.

The writer has endeavored to present all the facts available in an effort to find a satisfactory explanation for the striking of the bilingual coins.

On the one hand we have the statement of Vincent de Beauvais and the existence of numerous bilingual coins which indicate that Hetoum had accepted the suzerainty of the Sultan of Konya. On the other hand the absence of any report by other contemporary historians and the refusal of the Armenians to assist the Sultan in his wars is ample proof that if an acceptance of the suzerainty of the Sultan existed it was purely nominal and did not in any way restrict the independence of Cilician Armenia. The relationship between the two kingdoms must have been of a very friendly nature since the Sultan's family sought refuge at the court of Hetoum when the Mongols invaded Seldjûk lands.

Examination of the coins themselves shows no indication that they were struck under conditions implying dependence on the Seldjûk kingdom. On the Armenian side there is always a cross in the field of the coin, hardly suggesting a Christian subject to a Mohammedan ruler. As a matter of fact, the usual all-Armenian coins of Hetoum very rarely have a cross in the field. It is true that some bilingual coins also bear a star and crescent on the Armenian side, but at that time the star and crescent were in general use and were not considered an insignia of the Moslems.

Kaiḳobād was the most powerful ruler of the Seldjûk Dynasty in Asia Minor and extended his domination over large territories in Asia Minor and northern Syria. It is interesting to note that the Ayyûbid Al-Malik al-Nāsir Yūsuf II of Halab (Aleppo) had accepted the suzerainty of Kaiḳobād and issued joint coins with him.<sup>23</sup> We

<sup>23</sup> Henri Lavoix, *Catalogue des Monnaies Musulmanes* (Paris, 1896), vol. III, p. 560.

have also a bronze coin of Urtuk-Arslān (Urtuķis of Mārdīn) bearing Kaiķobād's name on one side.<sup>24</sup>

It would appear that the Hetoum-Kaiķobād bilingual coins were struck upon the conclusion of a treaty between the two rulers. It is quite probable that Hetoum accepted the nominal suzerainty of the Sultan, an acceptance which in no way interfered with the independence of Armenia. The agreement was of mutual advantage and established peace between the two countries which lasted for seventeen years until the coming of the Mongols.

#### ACKNOWLEDGMENTS

This article could not have been written without the assistance of Dr. George C. Miles of the American Numismatic Society, who made numerous valuable suggestions in the preparation of this paper and also undertook to read the inscriptions on the Arabic side of the coins.

The author is also indebted to Mr. M. Tiryakian of New York who so kindly translated the original Persian text of Ibn Bibi and numerous pages of the *Islam Ansiklopedisi* (in Turkish).

PAUL BEDOUKIAN

<sup>24</sup> S. Lane-Poole, *British Museum Catalogue, Catalogue of Oriental Coins*, Vol. III, p. 476, (London, 1877).

## ADDITIONAL NOTES ON THE EARLY COINAGE OF TRANSOXIANA II

Some important information about the Khwarezmian coinage was received from Professor W. B. Henning after the printing of Additional Notes I,<sup>1</sup> and an unavoidable delay has elapsed in the publication of this material. Since that time the scholarly world has been waiting for the detailed publication of the Soviet excavations in Khwarezm where many coins were found, but the latest book on the subject has nothing new on the coins.<sup>2</sup> Therefore these remarks are published with the realization that more coins may revise the conclusions about their decipherment.<sup>3</sup>

\* \* \*



Pp. 20-21

The writing in small and cursive characters on the obverse of these coins is not palpably different from the ordinary Sogdian cursive writing developed during the sixth and seventh centuries, indeed its resemblance to Sogdian cursive script is so great, even in minor details, that one would hesitate to describe it as Khwarezmian at all. This judgement is based solely on the single coin immediately available in a good specimen (Dr. Frye's plate, No. 2) and therefore necessarily provisional; it is a matter for regret that Tolstov's material, thanks to unscientific treatment, is unusable for serious study. The legend of the obverse of the coin referred to, which, as the obverse imitates the obverse of the later Sassanian coins, should

<sup>1</sup> *American Numismatic Society Museum Notes IV*, 105-114.

<sup>2</sup> S. P. Tolstov, ed., *Arxeologičeskie i etnografičeskie raboty Xorezmskoi ekspedicii 1945-1948* (Moscow, 1952), 652 pp.

<sup>3</sup> All pages refer to the monograph *Notes on the Early Coinage of Transoxiana* (Numismatic Notes and Monographs No. 113, New York, 1949). Each remark is signed with the initials of its author.

represent the name of the ruler, appears to be . Read as Sogdian cursive script, this legend may be *zk''čw'r*; the initial letters are admittedly ambiguous, but the final *-čw'r* is quite clear, notably so also in Tolstov's drawing p. 135, where the third and fourth letters deviate. It so happens that one of the names in al-Beruni's list of the 22 Khwarezmian Shāhs ends in *-čw'r*, namely Nos. 5 = ۱۳ ازکاچار. My reading of the first letters is adapted to al-Beruni's form, which is not capable of many variants.<sup>4</sup> It may be helpful to show how the letters *zk''čw'r* would appear in the ordinary type of Sogdian cursive: ; the only difference is that

*-k-* goes below the line in Sogdian, while in the coin legend its upper part is raised above the line.

The name of the king was thus *Zkāčwār*, (or *Zkācwār*, with *-c-* = *-ts-*); al-Beruni's spelling expresses the prothetic vowel commonly arising in Khwarezmian before initial consonant clusters (*əzkācwār*). He is, of course, the thirteenth (not the fifth) king of Beruni's list. As his immediate successor was contemporary with Qutaibah b. Muslim, *Zkācwār* must have ruled towards the end of the seventh century; this estimate is in agreement with the type of writing employed in the coin legend.

Tolstov's reading of this legend as *'bdwl-MLK* or *'bdwl-MLK* has merely curiosity value. His reading of another legend in cursive script (Tolstov, p. 134; Frye p. 20 line 4) as *Š'wšpr* is also not correct; the last three letters of the name, to judge by Tolstov's drawing, are very probably *-prn*. In itself, the importation of an obvious misspelling, such as *Š'wšfr* is, into coin legends is a singular mistake; for that *شاوشفر* is copyist's error for *شاوشفن* = *Šāwaš-fan(n)* is proved both by the transliteration of the name in Chinese and by the rules of Khwarezmian phonology; ancient *-rn-* appears regularly as *-n(n)-* in Khwarezmian, hence *-fan(n)* from *-farnah-*.

WBH

<sup>4</sup> The only variant worth considering is *'rk-* instead of *'zk-*; the coin legend, to judge by the material available, does not seem to support it.

## P. 22

John Walker drew my attention to the Arabic legend الإرلى on the coin of Hārūn al-Rashīd dated 171/787 and struck at Hamadān.<sup>5</sup> This is identical with the legend on the Khwarezmian coin figure 2 of *Notes*. This gives a sure dating for the Khwarezmian coin, and indicates that we have a parallel in coinage in Khwarezm with Bukhara. Both Khwarezmian and Bukharan coinage continued in use well into Islamic times. After a study of the style of both types of coins and the degeneration of the legends on both, one would be inclined to give more credence to Narshakhī's statement that coins were not minted in Bukhara before the time of Abū Bakr.<sup>6</sup> The Bukharan and Khwarezmian coinage both do not go back much before the Arab conquest.

RNF

## P. 22

Some years ago Dr. Frye kindly sent me a set of photographs of the inscribed objects reproduced in Smirnov's *Vostočnoe Serebro* and I recognized at once that one of the inscriptions concerned was in Sogdian. This inscription is on No. 71, a flat silver bowl without ornamentation. Only one side of the bowl is reproduced, and so only a part of the inscription (the last four words) can be seen; however, a drawing of the whole inscription accompanies the photograph. In front of the first word visible in the reproduction (the fourth word of the whole inscription), there appears to be a repair, or perhaps a label; but the drawing shows no break in the text. There is thus some doubt about the reading of the fourth word. There are further some points of unclarity in the first three words, where the reading cannot be checked; in particular, the second word does not seem to have been represented accurately, both at its beginning and at its end. The following drawing is thus necessarily conjectural in its first half:—

<sup>5</sup> S. Lane-Poole, *Catalogue of Oriental Coins in the British Museum*, 9 (London, 1889), 98.

<sup>6</sup> Frye, *The History of Bukhara* (Cambridge, Mass., 1954), 35.



Except for the fourth word (which is the name of the man for whom the bowl was made), the reading offers no difficulty:—

ZNH *pty'δ čn prδ'rč γypδ 60 δrym'k*

“This bowl (is) of Parδārč's property. Sixty drams.” The name, which might be Fraδārč, is not otherwise known. The word describing the bowl, which resembles a deep saucer, *pty'δ*, was known from Christian Sogdian (*S.T.*, i, 81, 12) where it corresponds to ποτήριον in 1 *Ep. Cor.* 11, 25; F. W. K. Müller recognized its relation to Persian *piyāle* “wine-cup”, which was elaborated by M. Benveniste, *J.A.*, 1936, i, 233–4. Regrettably Smirnov did not give the weight of the bowl; we are thus prevented from gaining a determination of the Sogdian weight standard. The inscription is scarcely earlier than the seventh century; according to Smirnov (p. 7a) the bowl belongs “to the last period of Indo-Scythian rule, third to seventh centuries”; it was found in Nižne-Šaxarovka, Gouvernement de Perm, in 1886. WBH

#### P. 29

Recently F. W. Altheim, in his *Porphyrios und Empedokles* (Tübingen, 1954), 47, has disputed Henning's reading of the legend on the coins of Bukhara, claiming that the final word is to be read *k'vy* instead of *k'y*. One need not discuss his philological remarks which are unconvincing for he makes a more fundamental error when he equates the final *alif* of the coins with *k'n'* with -y. The shape of y is clear (cf. p. 27 of *Notes* and p. 110 of *Additional Notes*, 110), and cannot be confused.

The problem is this: there are two legends *pwγ'r γwβ k'y* and *pwγ'r γwβ k'n'*. Only the last word in the former legend is suspect; *k'n'* is quite clear.

The problem, however, is far from solved, for the explanation of the coins in their historical context can only be made after study of the great number of coins found in excavations in Soviet Central Asia.

I must correct a statement made in my article “Notes on the History of Transoxiana,” *HJAS*, 19 (1956), 109, when I said “coins with the reading *k'n'* are the earliest of the series.” The *k'n'* coins are *not only* the earliest (coins with debased Pahlavi legend on the upper

left obv.), but *k'n'* also appears on coins with Arabic legends on the obv. It appears on silver as well as alloy coins. It is clear that *k'n'* is the norm and *k'y*, or whatever, the exception. The unique coin with a different legend (Notes, p. 27) indicates that there were exceptions, if they may be so called. The last word on these coins has not been said.

RNF

## P. 31

The alloy "Bukharan coins" have been discussed by M. E. Masson in an article "K voprosu o černyx dirxemax Museiyabi", *Trudy Instituta Istorii i Arxeologii, Akad. Nauk Uzbekskoi SSR* (Tashkent, 1955), 175–196. Based on a study of hoards found in Central Asia, Masson concludes that the silver "Bukharan coins" were struck from 12–89 A.H./633–707 A.D., after which they went out of circulation in favor of Islamic coins. The "Bukharan coins" were revived and struck in alloy by Ghiṭrīf b. 'Aṭā in the time of Hārūn al-Rashīd. Other governors in Transoxiana did the same, hence the popular designation *Ghiṭrīfī*, *Muḥammadī*, and *Musaiyabī*.

Masson discusses the areas of circulation of these three types, and convincingly argues that all three were "Bukharan coins," and not Islamic dirhems, thus confirming my surmise on p. 31 of *Notes*. It is again obvious that access to the coins found in Soviet Central Asia is essential to work in this field.

RNF

## P. 32

The further work of Soviet scholars, especially O. I. Smirnova, on the "Sogdian coins," makes necessary a revision of classification of the pre-Islamic coins of Central Asia. The discovery of moulds for the casting of copper coins in the excavations at Panjikent in Tadzhikistan indicates a Chinese influence. Cf. O. I. Smirnova, "Pervyi klad Sogdiiskix monet," *Epigrafika Vostoka*, 10 (1955), 9.

The classification of coins mentioned in "Additional Notes I," 110, has been elaborated by Smirnova in an article "Sogdiiskie monety sobraniya numismatičeskogo otdela Ermitaža," *E.V.*, 4 (1951), 3–23. The copper coins are now classified as follows:

1. Chinese coins with a square hole. The earliest coins only have a Chinese legend; later Sogdian is added.
2. Coins with the bust of a ruler on obv. and a square outlined on the rev. These coins are obviously later than the former, showing continuation of the Chinese square hole only in figure on the rev. The legends are cursive Sogdian only.
3. Copper coins of local provenance with the bust of a ruler, or more usually a sign or *tamga* of the ruler, and with or without Sogdian legend.

This classification is further examined in Smirnova's "Materialy k svodnomu katalogu Sogdiiskix money," *E.V.*, 6 (1952), 3-44.

It is clear that both Chinese and Sassanian influences were strong in pre-Islamic or early Islamic Transoxiana. Further, from the persistence of non-Islamic coins, plus other sources, it seems that *mā warā' l-nahr*, the other side of the Oxus River, meant non-Islamic territory for the Arabs. Islam was not secure in Transoxiana and the rule of the caliph was not widely accepted until after Hārūn al-Rashīd.

RNF

## P. 44

In "Additional Notes I," 113, I mentioned a notice in the *Ta'rīx-e Nīšāpūr*, foll. 65b, on Ghīṭrīf. The text of this section is now published.<sup>7</sup> The translation follows: "In the beginning of Islam the rulers of Transoxiana were three brothers, Muḥammad, Ghīṭrīf, and Musaiyab. All three were from Rīvand. Each one struck many *dīnars* and *dirhems* in that realm, and remains of them are still found." This account, of course, is folk tradition.

RNF

## P. 49

Persian *pašīz*, older *pišīz*, the equivalent of Arabic *fals*, means, as does *fals*, both "scale of a fish" and "the smallest copper or bronze coin". No doubt "scale" was the original meaning; the word was then used of coins owing to the misunderstanding of φόλλις (Lat. *follis*), which was confused with φολίς, see Georg Hoffmann *apud*

<sup>7</sup> *Farhang-e Irān Zamīn*, 1 (Tehran 1954).

J. Flemming, *Akt. Ephes. Syn.* (= *Abh. G. G. W.*, 1917), p. 174a; in Arabic *fals* both words coalesced, cf. S. Fraenkel, *Aram. LW. im Arab.*, 192. No doubt the coincidence of the two meanings in *fals* and *pašīz* assisted the metaphorical use of terms designating coins for "scale" in Persian, exemplified by *diram-i māhī* "the shilling of the fish" = "scale" in the quotation from the *Tuḥfatu 's-Sa'adat*.

The further history of *pašīz* is by no means clear. To judge by loanwords in Armenian (*p'sit*, Hübschmann, *Arm. Gram.*, 255), Syriac (*pšitā*, *Thes. Syr.* 3321), and Talmudic Aramaic (plural *pšitē*, Levy, iv, 148b), the word was *pišit* originally. Pahlavi *pšyc* = *pišič*, the ancestor of Persian *pašīz*, can easily be explained as a deminutive of *pišit*, i.e., *pišič* from *pišit-č*. However, an original form *pišit* does not well agree with the alternative Persian form *paši* (from *piši*), since final post-vocalic *-t* is not ordinarily lost in Persian; nevertheless, as a few such cases are known (e.g. *anguže* beside *angužad*, *furū* beside *furūd*), it is permissible to add *paši* to their number, see Horn, *Gr. Ir. Ph.*, i, 2, 84. Persian *paši* is attested not merely by the oft-quoted naughty verse of Sūzanī's, but also by the Persian glosses on Khwarezmian sentences and, incidentally, by the Persian loanword *pši*, *əpši* = *fals* in Khwarezmian; in *ZDMG.*, 90 (1936), p. +34+, sentence iii, *ایش* must be read in the place of *ایش*.

A precise definition of the value of a *pašīz* is not possible for the present. Of the Sassanian copper coins we know very little, and literary references are few and indecisive. The sequence of words in Ch. xxx of the Farhang-i Pahlavi suggests that either two or three *pašīz* had the value of a *dāng* (obol); the former alternative is rendered more likely by a verse in *Pahlavi Texts*, 113, 12, *xurmā pad dō pišīz kōdakān xrīnēnd* "for a couple of *pašīz* children buy dates". On the other hand, the late Parsi-Persian glossary published by Sachau (*Neue Beiträge zur Kenntnis der Zoroastrischen Litteratur*, 1871), p. 39=841, last line, has

پشیز چهارم حصه از دانک

i.e., *pašīz* = a quarter *dāng* (Sachau wrongly printed *pšbz* instead of *pšyz*). It is precisely the latter definition that we should attribute to the *Tuḥfatu 's-Sa'adat*, quoted by Dr. Frye, where چهار مرتقه

is probably copyist's mistake for چهارم حصه; the preceding words are presumably *yak pāye dāng* (instead of *pāye-i*) = "a worthless (or low or faked) copper", if we may impute to the author familiarity with so rare a meaning of *pāye*, which is known chiefly by a verse of *Nāṣir-i Khosrau's*: —

*bal yakī pāye pašīz-ast ke tā yāftamaš*  
*ne hamī dūst pađīrad zi-man-aš ne 'aduv-am*

(quoted in Dehkhoda's encyclopedia, under *pāye* p. 118, col. 2 top, and under *pašīz*, p. 382, col. 2 below, with slight variations; in the full edition of the *Divan*, p. 287, 21 the critical words have been replaced by others). As to the verse ascribed to Sa'di in the *Tuhfatu 's-Sa'adat*, I have been unable to find it in the editions of Sa'di's works; it probably means "To give a large amount is not (necessarily) generosity: (to give) a *dāng* out of a drachm or a *pašīz* out of a *dāng*, (that is generosity)".—An unusual definition of *pašīz* is supplied by al-Beruni: the sixtieth part of a drachm (Persian *Tafhīm*, p. 34); the definition of Arm. *p'sit* by Anania Širakuni is quoted by Huebschmann *loc. cit.*

WBH

RICHARD N. FRYE AND WALTER B. HENNING

## WAR MEDALS AND PAPER-MONEY OF GEORGIA IN TRANSCAUCASIA (1915-24)

(SEE PLATES XXXI-XLII)

While working at the American Numismatic Society in 1953 on the monetary series of Georgia and Armenia, the present writer's attention was drawn to a fine album of Russian banknotes of all periods in the Society's possession, including many items from remote parts of Russia in Asia. Some of these are from the Caucasian republics of Georgia, Armenia and Azerbaijan which enjoyed a brief existence after the 1917 Revolution. In addition, the ANS possesses a set of uncommon Georgian medals dating from World War I. Rather than attempting to fit these rather heterogeneous items into a general survey of Georgia's numismatic history,<sup>1</sup> it was decided to devote a separate article to them. The present study deals with the medals, and with various banknotes and semi-official paper-money current in Georgia following the collapse of the Tsarist monetary system.

### *Medals: Order of Queen T'amar*

From the period of the World War I dates the institution of the Order of Queen T'amar by General Kress von Kressenstein, Commander-in-Chief of the Georgian Legion fighting with the Turco-German forces against Russia. It was presumably of three classes, though so far the Stars are the only insignia of the Order that have come to our attention.

In the collection of The American Numismatic Society there are three of these pieces. Two were made in Germany and one is of uncertain origin. The German Stars are of the highest quality chipped silver construction, with the usual eight principal points. In the centre, they bear a silver-gilt medallion showing a bust of Queen

<sup>1</sup> D. M. Lang, *Studies in the Numismatic History of Georgia in Transcaucasia*, New York, 1955 (*ANS Notes and Monographs*, No. 130).

T'amar on a blue ground, surrounded with the legend: ქართველი ლეგიონი, 1915: "K'art'uli Legioni (Georgian Legion), 1915," in gilt on blue.

The Star of the First Class measures 95 mm., and the centre medallion 27 mm. The medallion is surrounded by a double row of chipped brilliants.

PLATE XXXI, 1

The Star of the Second Class measures 78 mm., the medallion being like that of the First Class, but surrounded by only a single row of chipped brilliants.

PLATE XXXI, 2

The remaining Star in the ANS cabinet, evidently intended for the Third Class, is smaller than the two just mentioned. While the centre medallion is similar in all respects, except for the absence of surrounding chipped silver brilliants, the rays are of smooth frosted silver. This Star, of four principal and four lesser points, measures 71 by 64 mm.<sup>2</sup>

PLATE XXXI, 3

### *Paper-Money*

World War I and the revolutions of February and October, 1917, resulted in the disintegration of the Tsarist Empire.

The Kerensky government appointed an Extraordinary Commissariat to administer the affairs of Georgia, Armenia and Azerbaijan. In November, 1917, this Transcaucasian Commissariat was reconstituted as a Joint Provisional Government under the Presidency of the Georgian Social-Democrat E. Gueguetchkori (Gegechkori). This body was transformed in the following April into the Federal Democratic Republic of Transcaucasia.

The Turkish menace, combined with internal stresses, soon disrupted the union. On May 26, 1918, the Federal Republic broke up into its component national states. The Georgian Democratic Republic was headed by the late Noah Jordania, leader of the Georgian Social-Democratic (Menshevik) Party.

<sup>2</sup> See *The Medal Collector* (February, 1952), p. 9: "Georgia: Order of Saint Tamara (From the collection of A. A. Miller)". These descriptions were kindly supplied by Mr. J. C. Risk.

In spite of treaty undertakings, the Bolsheviks launched an offensive against Georgia early in 1921 and forcibly incorporated the country into the Soviet Union.

Meanwhile, Russia was ruined. The fiscal machinery had broken down under the chaotic conditions produced by war and revolution. A decree of May 15, 1919, authorised the emission of paper-money without any restrictions, and the unlimited issue of fresh paper naturally caused catastrophic depreciation. Fantastic inflation and hopeless deficits marked the abandonment of all conventional principles of exchange. A plethora of paper-money of every description emanated from rival governments and warring military groupings, as well as from the various seceding minority peoples. Regular bank notes were supplemented by overprinted postage stamps, coupons, paper tokens issued by commercial and municipal enterprises, railways, prisoner-of-war camps and so on.<sup>3</sup> Those issued at Tiflis and in other towns of Georgia during this period form an extensive series, reflecting the economic strain and changing orientations to which the country was subjected.

As has been noted, the ANS possesses an album of Russian paper-money, collected by a traveller who visited that region on consular and diplomatic business during and after World War I. This album includes a good, though far from complete range of Georgian bank-notes and miscellaneous monetary issues of the period. The motives that encourage us to publish what Georgian material there is in this album are threefold: firstly, no previous attempt has been made to transcribe and interpret the Georgian texts featuring thereon, which are often important and yet quite unintelligible to the Western collector; secondly, the illustrations given in the standard work by Chuchin are much reduced in size and far from clear, so that those here provided may be felt to be somewhat of an improvement; and thirdly, the fact that Mr. Augustin, the printer of *Museum Notes*, has at his disposal an excellent fount of Georgian characters. Those

<sup>3</sup> A. Lohmeyer, "La monnaie de nécessité en Russie, 1914-1923", in the journal *Aréthuse*, fasc. 10 (1926); W. M. Oushkoff, "Russian Emergency Paper Money", in *The Emergency Money Collector*, I-II (1949-51); Sir Bernard Pares, *A History of Russia*, new edition (London, 1947), p. 548; *Russia: The Official Report of the British Trades Union Delegation, 1924* (London, 1925), pp. 18-24.



who wish to compile a complete list of all revolutionary paper-money ever issued in Georgia should refer to the three standard works of Chuchin (in Russian), Denis (in French) and Kardakoff (in German).<sup>4</sup>

*Transcaucasian Commissariat (1918).*

Bonds:

1 rouble, black on brown	54× 75 mm. PLATE XXXII
3 rb., black on green	64× 87 mm.
5 rb., blue on buff	113× 74 mm. PLATE XXXIII
10 rb., red on buff	117× 77 mm.
50 rb., black on grey	138× 88 mm.
100 rb., dark on pale brown	156× 102 mm.
250 rb., black on pink	167× 103 mm. PLATE XXXIV

The Notes of this series bear, beneath the Russian legend, signatures of the Finance Minister of the Commissariat, and its President, E. Gegechkori. On the back appears a trilingual legend in Georgian, Armenian and Azerbaijan Turki. The Georgian text reads:

[\*] მანეთი.  
სავალდებულოა  
მისაღებად ისე როგორც  
სახელმწიფოს საკრედიტო  
ბილეთი.

[\*] roubles. To be accepted compulsorily  
on the same basis as State Credit Note.

*Georgian Democratic Republic (1918-21).*

1. Bonds: 1919.

50 copecks, blue and buff	57× 38 mm. PLATE XXXV, 2
1 rb., brown on pink	76× 53 mm.
3 rb., black on green	89× 60 mm. PLATE XXXVI
5 rb., brown and dark green on orange	115× 73 mm.
100 rb., green and pink	156× 101 mm.
500 rb., black, blue and pink on buff	163× 102 mm. PLATE XXXVII

<sup>4</sup> F. G. Chuchin, *Bumazhnye denezhnye znaki* (Moscow, 1924); C. Denis, *Catalogue des monnaies émises sur le territoire de la Russie (1914-25)* (Paris, 1927); N. Kardakoff, *Katalog der Geldscheine von Russland und der Baltischen Staaten, 1769-1950* (Berlin, 1953).

This series bears the national emblem of the Georgian Republic, St. George on horseback, armed with spear.

The legend on the notes of one rouble and above reads:

[\*] მანეთი. ბონი  
საქართველოს რესპუბლიკისა.  
მიღება სავალდებულოა  
თანაბრად რუსეთის  
ხაზელმწიფო საკრედიტო  
ბილეთისა. ბონისათვის პასუხის  
მგებელია საქართველოს  
რესპუბლიკა მთელი თავისი  
ქონებით.

მთავრობის თავმჯდომარე  
ნ. ჟორდანია  
ფინანსთა მინისტრი  
კ. კანდელაკი.

[\*] roubles. Bond  
of the Georgian Republic.  
Acceptance is compulsory on the  
same basis as Russian State  
Credit Note. The bond is backed  
by the Georgian Republic  
with its entire assets.

President of the Government:  
N. Jordania  
Minister of Finances:  
K. Kandelaki.

The French legend reads:

[\*] roubles. Ayant cours obligatoire au même titre que les billets de crédit russe [*sic*].

The obverse design of the 500 rouble note portrays a female figure clad in Georgian traditional costume, seated beneath an arch of medieval architectural style. Above is the national emblem of St. George, in a medallion. Below, right, is a shield on which are inscribed the letters: ს. დ. რ., representing საქართველოს დემოკრატიული რესპუბლიკა (Georgian Democratic Republic). The crest with St. George also appears, enlarged, on the back. Below is printed a warning against counterfeiting.

The higher denominations bear two dates: 26. V. 1918, the date of Georgia's declaration of independence, and 1919, the year of issue.

2. Bond: 1920

1000 rb. dark brown and orange on blue 163 × 102 mm.

3. Bond: 1921

5000 rb. dark blue and pink on grey; rev.

design in dark green

175 × 105 mm.

PLATE XXXVIII

Shows Tiflis Government building.

The above two examples supplement the previous series.

4. Cheques. K'ut'aisi branch of Georgian State Bank. 1921.  
 50,000 rb. } Black on white watermarked 210 × 95 mm.  
 100,000 rb. } paper PLATE XXXIX, 1

According to Chuchin, these cheques, which are really bank-notes, were never put into circulation. They were probably printed when the Bolsheviks were marching on Tiflis and the Georgian Government had to retreat into Western Georgia.

The cheques bear the national crest of St. George.

Their legend reads:

ქუთაისის ზაზინა	K'ut'aisi Treasury
1921წ. მან. 50,000 [100,000].	1921. 50,000 [100,000] rb.
მიეცეს ამ ჩეკის წარმომდგენს	To be paid to the presenter of this
ღრმოდგაათი [ასი] ათასი მანეთი	cheque 50 [100] thousand roubles
და ეს თანხა ჩამოიწეროს	and this sum to be drawn on the
ფინანსთა და ვაჭრობა —	account of the Ministries of Fi-
მრეწველობის სამინისტროს	nance and Commerce and Indu-
ანგარიშიდან.	stry.
ფინანსთა მინისტრი ...	Minister of Finances ...
ტფილისის ზაზინადარი ...	Tiflis Treasurer ...

In the border is printed an announcement stating that the cheques are valid for one month, and are compulsory legal tender as Georgian currency notes.

The counterfoil has spaces to be filled in opposite the following headings:

	No.	No.
	თანხა	sum
	დრო	time
	ვინ	owner.
5. Token.	Batum Treasury	1918.
1 rb.	Yellow	30 × 48 mm.
		PLATE XXXV, 1

In centre, medallion showing palm-tree. Around, in Russian: Exchange token of the Batum Treasury. Below, warning against counterfeiting.

*Tokens and Vouchers of Industrial and Commercial Enterprises.*

1. Cheque. Tiflis Military Consumers' Association. N.D.  
 1 rb. black 80 × 53 mm.  
 3 rb. purple on grey  
 5 rb. brown on lemon

ЧЕКЪ ОВА ПОТРЕБИТЕЛЕЙ  
 ВОЕННО — СЛУЖАЩИХЪ

Г. ТИФЛИСА

PLATE XXXIX, 2

2. Tokens. Tqibuli Coal Mines: Georgian Club. 1918.  
 1 rb. red, black and yellow 125 × 60 mm.  
 3 rb. red, black and green  
 ქ. კ. K'art'uli Klubi (Georgian Club)  
 ერთი [სამი] მანეთი One [3] rb.  
 დასახურდავებლად To be used as change.  
 1918 1918

Above:

- 1) ამ ზურდას გასავალი 1) This change-token has  
 აქვს მხოლოდ validity only in the Club  
 კლუბის შენობაში. building.  
 2) ამ ზურდის განადგება 2) This change-token may  
 შეიძლება კლუბის კასაში be cashed at the Club's cash-  
 მხოლოდ არა ნაკლებ desk, in quantities of not less  
 ხუთი თუმნისა. than fifty roubles only.  
 In left margin:  
 ქ. კ. Georgian Club  
 1 [3] მ. 1 [3] rb. PLATE XXXIX, 3

3. Tokens. Tqibuli Coal Mines. 1919.  
 50 copecks red, black and blue 125 × 60 mm.  
 5 rb. red, black and orange  
 ტ. წ. Tqibulis Dsarmoeba (Tqibuli  
 ათი შაური Corporation)  
 [ხუთი მანეთი] Ten shauri (50 cop.)  
 დასახურდავებლად. [5 rb.]  
 1919 To be used as change.  
 1919

## Above:

- |  |  |
|--|--|
| 1) ამ ზურდას<br>გახავალი აქვს მხოლოდ<br>ტყიბულის მადარეზედ.        | 1) This change-token has<br>validity only in the<br>Tqibuli mines.     |
| 2) ამ ზურდის<br>განადგება შეიძლება<br>მხოლოდ მადარეზის<br>კახსაში. | 2) This change-token may be<br>cashed only at the mine's<br>cash-desk. |

## In left margin:

ტ. ქ. წ.  50 კ. [5 მ.]	Tqibulis k'vanakhshiris dsarmoeba (Tqibuli Coal-Mining Corporation) 50 copecks [5 rb.]
---------------------------------	---

The Tqibuli Coal-Mines are situated to the north-east of K'ut'aisi in Imeret'i, Western Georgia.

*Georgian Soviet Socialist Republic (1921-22).*

- |   |               |
|---|---------------|
| 1. Bank Notes. Bank of the Georgian S.S.R.      | 1922          |
| 100,000 rb. black, pink and brown on grey       | 260 × 124 mm. |
| 500,000 rb. black, orange and brown on blue     |               |
| 1,000,000 rb. black, blue and brown on orange   |               |
| 5,000,000 rb. black, mauve and brown on yellow. | PLATE XL      |

საქართველოს ს.ს. რესპუბლიკის ბანკი. ვალდებულება. ამ ვალდებულების წარმომდგენს საქართველოს ს.ს. რესპუბლიკის სახალხო ბანკი დაუყოვნებლივ  აძლევს ასი ათას მანეთს ქართული ბონებით. ტფილისი, 31 მაისი 1922 წ.	Georgian Soviet Socialist Republic's Bank. Bank-Note. To the presenter of this note the Georgian Soviet Socialist Republic's People's Bank im- mediately pays one hundred thousand roubles in Georgian bonds. Tiflis, May 31, 1922.
--	--

To the left appears the hammer and sickle crest.

10 rb.	black on pink	79 × 66 mm.
25 rb.	black on red	67 × 69 mm.
	Perforated.	

*Soviet Federative Republic of Transcaucasia (1923-24)*

First Moscow printing. Watermarked paper. Misprints in the Georgian legends. Twining motif of the Rev. border winds in the same direction all round.

Second Moscow printing. Watermarked paper. Misprints. Twining border winds in two different directions.

5000 rb.	dark blue and violet	170 × 100 mm.
10,000 rb.	brown and grey	
5,000,000 rb.	black and green (left half) and rose (right half)	
10,000,000 rb.	black and rainbow coloured.	

Tiflis printing. No watermark. Misprints in Georgian legends corrected. Twining border winds all in the same direction.

10,000 rb. purple and pink	171 × 105 mm.
25,000 rb. black and brown	
50,000 rb. black and green	
100,000 rb. brown and rose	
250,000 rb. black and green	PLATE XLI
500,000 rb. purple and blue	
1,000,000 rb. brown and violet	

# PLATE XLI

1924.

Moscow printing. Watermarked.

50,000,000 rb. black and violet	170 × 100 mm.
100,000,000 rb. brown and green	170 × 100 mm.
250,000,000 rb. dark green, purple and orange	197 × 94 mm.

Tiflis printing. No watermark.

25,000,000 rb. grey and mauve	174 × 100 mm.
75,000,000 rb. black and fawn	194 × 94 mm.

PLATE XLII

The lower denominations of this series show the Tiflis Government building, as on some of the Georgian Democratic Republic series, but now flying the Soviet flag. The reverse has the hammer and sickle crest within a star. Notes of 75,000,000 and of 250,000,000 roubles and above have a different design, showing oil-fields and an allegorical figure representing Labour.

Legends are in Russian, Georgian, Armenian and Azerbaijan Turki. The Georgian reads:

*Obverse*

ამიერ — კავკას. ს. ს. რ.	Transcaucasian S.S.R. Federation
ფედერაც. ფულის ნიშანი.	Money Token.
მიღება სავალდებულოა	Acceptance is obligatory throughout
ამ.—კავკ. ფედერ. მთელს ტერ.	the whole territory of the Transcaucasian Federation.

*Reverse*

ერთი მანეთი	One rouble in Transcaucasian
ამიერ — კავკასიის ბონისა უდრის	bonds is equivalent to one rouble
საქართველოს ბონის ერთ მანეთს.	in Georgian bonds.

The Moscow printings have უდრის in error for უდრის and საქართველოს for საქართველოს.

Among the members of the Federation's Presidium whose signatures feature on the 1923 issue is the well-known Georgian revolutionary Budu Mdivani. In 1924, his name is replaced by that of the President of the Council of People's Commissars, M. Orak'elashvili.

2. Paper Tokens. Transcaucasian Railway. [c. 1923]

5000 rb. yellow

124×77 mm.

10,000 rb. blue

25,000 rb. green

50,000 rb. pink

100,000 rb. purple

Legends in Russian. Plain design.

The consolidation of Soviet power and eventual restoration of comparative stability in the economic situation led to the monetary reform of 1924 and the abolition of regional currencies.<sup>5</sup> In 1936, the Transcaucasian Federation broke up into its component national groupings to form the Soviet Republics of Georgia, Armenia and Azerbaijan. Since the period under review, Georgia has had no distinctive coinage or note issue of her own.

The foregoing account of Georgia's republican and revolutionary note issues is far from being a complete one, as it is limited to the items contained in The American Numismatic Society's album of Russian paper money. A complete repertory of these would need to include descriptions of the dozens of rare local issues listed by Chuchin and Denis, and now largely inaccessible to collectors outside the Soviet Union. It is hoped, however, that the selection described and illustrated here will give at least some impression of this phase of Georgia's monetary history.

DAVID M. LANG

Article "Zakavkazskie bony" in *Bol'shaya Sovetskaya Entsiklopediya*, vol. XXVI (Moscow, 1933) p. 62; *Russia: The Official Report of the British Trades Union Delegation, 1924*, pp. 26-7.





## A NOTE ON EGYPTIAN GOLD AND SILVER ASSAY MARKS

Attention has recently been drawn to certain Egyptian punches or countermarks on a Levantine imitation of a ducat of the last Venetian doge, Ludovico Manin.<sup>1</sup> In view of the fact that Egyptian law theoretically requires that all objects of gold and silver, including coins offered for sale by goldsmiths and antique dealers,<sup>2</sup> bear hall-marks—or more properly assay marks—such as these, it has been suggested that a note explaining the meaning of these symbols might be welcomed by numismatists and collectors.

The accompanying data and illustrations are taken from charts and tables kindly furnished to the writer in 1954 by the director of the Administration of Stamps and Weights in Cairo (*Maṣlahat al-damgh wa'l-mawāzīn*), an office of the Ministry of Commerce and Industry (*Wizārat al-tijārah wa'l-ṣanā'ah*).

### GOLD (*al-dhahab*)

Three separate stamps are placed on gold objects. The sign (*shārah*) for the country, that is for Egypt, is the ibis (fig. 1).<sup>3</sup> For a short period, between February 1951 and an undetermined date after King Farouk's banishment (26 July 1952), Farouk's name (*Fārūq*) was substituted for the ibis (fig. 2), but the latter has now been restored.

A second symbol attests the fineness (*al-'iyār*) in carats (*qīrāt*) and indicates the branch office at which the object was stamped (*ramz qalam al-damghah*). The offices and their monograms are as follows: Cairo (*al-Qāhirah*), in the case illustrated the fineness being 12 carats (fig. 3); Alexandria (*al-Iskandarīyah*), 14 carats (fig. 4); Beni Soueif, 18 carats (fig. 5); Tanṭā, 21 carats (fig. 6); al-Manṣūrah,

<sup>1</sup> Herbert E. Ives, "The Venetian Gold Ducat and its Imitations" (*NNM* No. 128, N.Y., 1954), p. 27 and footnote 50, pl. XIII, no. 6.

<sup>2</sup> In actual practice very few dealers in the goldsmiths' quarters (*ṣāghah*) seem to submit their coins for stamping.

<sup>3</sup> Probably strictly speaking the buff-backed egret, the bird seen by the thousands in fields along the Nile and in the Delta.

23½ carats (fig. 7); Zagazig (*al-Zaqāzīq*), 12 carats (fig. 8); Assiout (*Asyūṭ*), 14 carats (fig. 9); Qenā, 18 carats (fig. 10).



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The third stamp gives the date, indicated by a letter, formerly in the Latin alphabet, more recently in the Arabic. An example is (fig. 11). The key to these symbols, from 1916 to 1954, is as follows:<sup>4</sup>

<sup>4</sup> The writer was unable to learn officially the exact month and day of the beginning and ending of the periods down to 1940. According to a Cairo goldsmith: R ended on 1 April 1916, S began on 1 September 1916, T began on 1 April 1918, G began on 1 May 1931, and all letters down to P likewise began on 1 May.

R 1916-1917	I 1933-1934
S 1917-1918	K 1934-1935
T 1918-1919	L 1935-1936
U 1919-1920	M 1936-1937
V 1920-1921	N 1937-1938
W 1921-1922	O 1938-1939
X 1922-1923	P 1939-1940
Y 1923-1924	ا 1 May 1940-31 Oct. 1941
Z 1924-1925	ب 1 Nov. 1941-30 Apr. 1943
A 1925-1926	ت 1 May 1943-31 May 1944
B 1926-1927	ث 1 June 1944-30 June 1945
C 1927-1928	ج 1 July 1945-30 Apr. 1946
D 1928-1929	ح 1 May 1946-30 June 1947
E 1929-1930	خ 1 July 1947-30 Sept. 1948
F 1930-1931	د 1 Oct. 1948-30 Nov. 1949
G 1931-1932	ذ 1 Dec. 1949-10 Feb. 1951
H 1932-1933	ر 11 Feb. 1951-8 Jan. 1953
	ز 10 (sic) Jan. 1953-still current in Feb. 1954

### SILVER (*al-fiḍḍah*)

The symbol for Egypt on silver objects formerly was the lotus (fig. 12), and now is the cat (fig. 13).<sup>5</sup> The office symbols are the same as for gold, but fineness figures are given as 60, 80 or 90 (percent); the examples illustrated are Cairo, 60 (fig. 14), Alexandria, 80 (fig. 15), and Ṭanṭā, 90 (fig. 16).

GEORGE C. MILES

<sup>5</sup> Date of the change not available.



## PICININUS MEDAL BY PISANELLO

(SEE PLATE XLIII)

Through courtesy of Mr. Alastair Bradley Martin of New York, The American Numismatic Society has received on loan an outstanding medal by Antonio Pisano. Pisano ranks amongst the giants of the Italian Quattrocento. To the art collector he is principally known as a Veronese painter, born about 1390. His world wide fame, however, is based on his achievement in the numismatic field.

Pisanello, the name now applied to him, was the originator of the modern medal. His accomplishment as a medallist is supreme, whereas in painting, great as his work was, others of his time equalled or surpassed him.

Contemporary medals of Pisanello, whose genuineness cannot be questioned, are exceedingly rare. The Picininus medal a picture of which will be found on PLATE XLIII, can be described as follows: NICCOLO PICCININO, CONDOTTIERE, ABOUT 1380-1444. BRONZE MEDAL, PROBABLY 1441. NICOLAVS PICININVS VICECOMES MARCHIO CAPITANEVS MAX(IMVS) AC MARS ALTER Bust to left in plate-armour, with tall cap. *Rev.* A female griffin, wearing collar inscribed PERVSIA standing left, wings raised, suckling two infants, Braccio da Montone and Piccinino; on left, BRACCIVS.; on right. N. PICININVS.; below PISANI. P. OPUS The size is 89 mm.

For a more detailed description refer to: G. F. Hill, *Portrait Medals of Italian artists of the Renaissance*, No. 22; same author, *Gustaf Dreyfus collection* Plate III. 4; same author, *Pisanello*, pp. 127-128, Pl. 33; Aloiss Heiss, *Les Medailleurs de La Renaissance*, Pl. II. 3; Georg Habich, *Die Medaillen der Italienischen Renaissance*, Pl. II. 2; A. Calabi & G. Cornaggia, *Pisanello*, pp. 129-130, Pl. 215; Julius Friedlaender, *Die Italienischen Schaumünzen des Fünfzehnten Jahrhunderts*, Pl. II; Alfred Armand, *Les Médailles italiens des quinzième et seizième Siècles*, I, p. 4, No. 19.

Although some of Pisanello's other creations, such as the medals portraying Alfonso I of Naples, Sigismondo Malatesta and Lionello D'Este, rank higher in mastery of expression and conception in the design of the reverses, the Picininus medal shows very clearly Pisanello's independence from classical art as the originator of the medal. The execution of the portrait is very striking in its simplicity. The great soldier calls himself "Capitaneus Maximus et Mars Alter", the greatest military leader and another Mars. He was a pupil of the famous military leader Braccio Da Montone and like him a citizen of Perugia. The reverse shows the Perugian griffin suckling the two future warriors, a design suggested by the Roman wolf and twins, Romulus and Remus.

HENRY GRUNTHAL

## TWO UNRECORDED BRYAN TOKENS

(SEE PLATES XLIV–XLV)

Through the courtesy of Mr. Michael Kolman, the owner of the Federal Coin Exchange in Cleveland, Ohio, we have been able to acquire two Bryan tokens which had not come to the attention of Mr. Farran Zerbe. They are therefore lacking in the listing of Bryan money which Zerbe published in the July 1926 issue of *The Numismatist*.

The two tokens can be described as follows:

1. Dime 1896, cast iron. \*\*\* FREE COINAGE \*\*\* 1896, in the center: ONE DIME. *Rev.* WHISKERS / 16 TO 1 / \*\*\*\*\* 82 mm. PLATE XLIV

2. Dime 1897, cast in solder. FREE COINAGE / ONE / DIME \*\*\* 1897 \*\*\* *Rev.* FROM SILVER MINES, in the center \* OF – \* – BUNCO \*, below \*\*\* STATE \*\*\*. The obverse is similar to Zerbe 17, but dated 1897; the reverse is similar to Zerbe 50, but ONE DIME instead of 16 TO 1. 51 mm. PLATE XLV.

HENRY GRUNTHAL



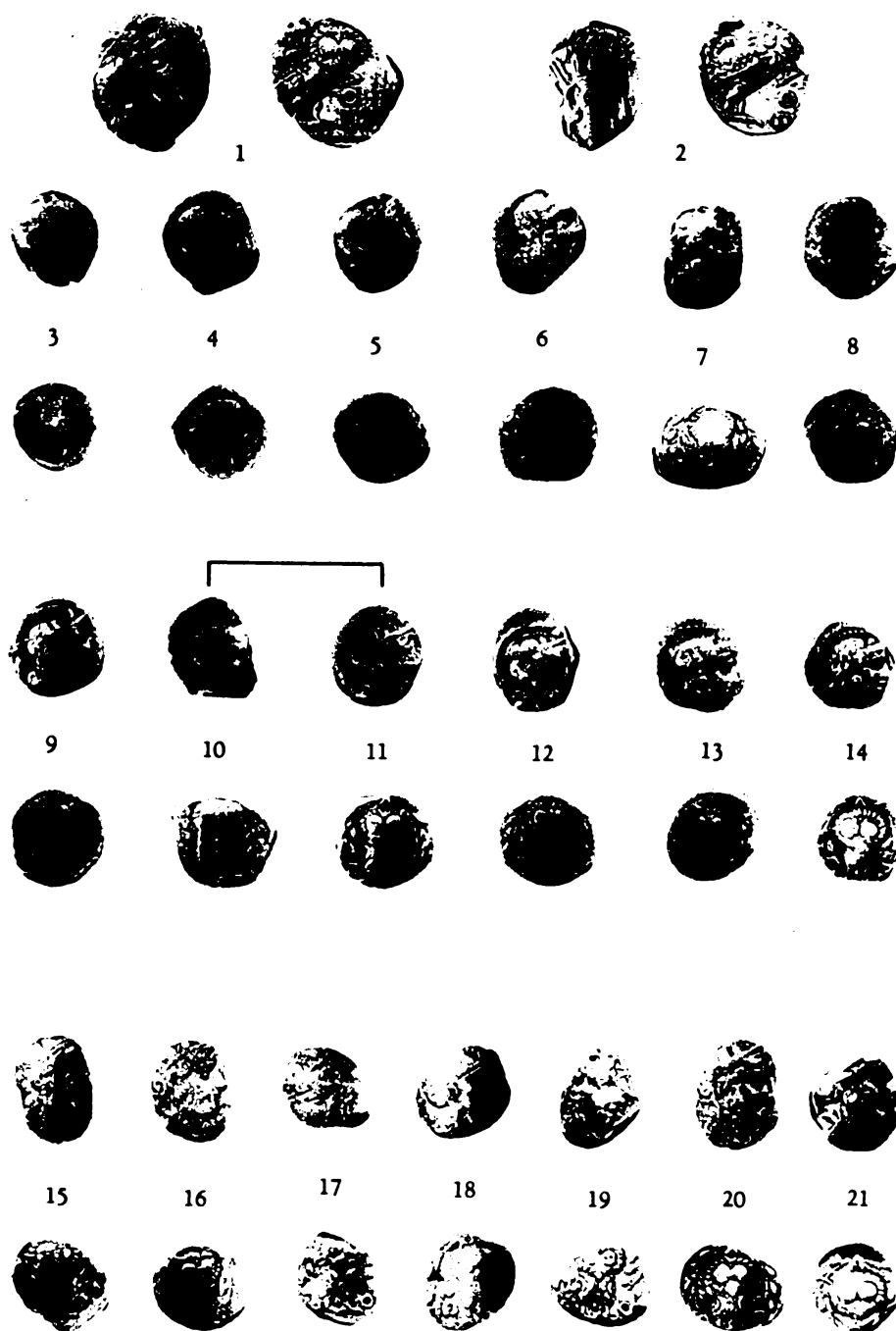




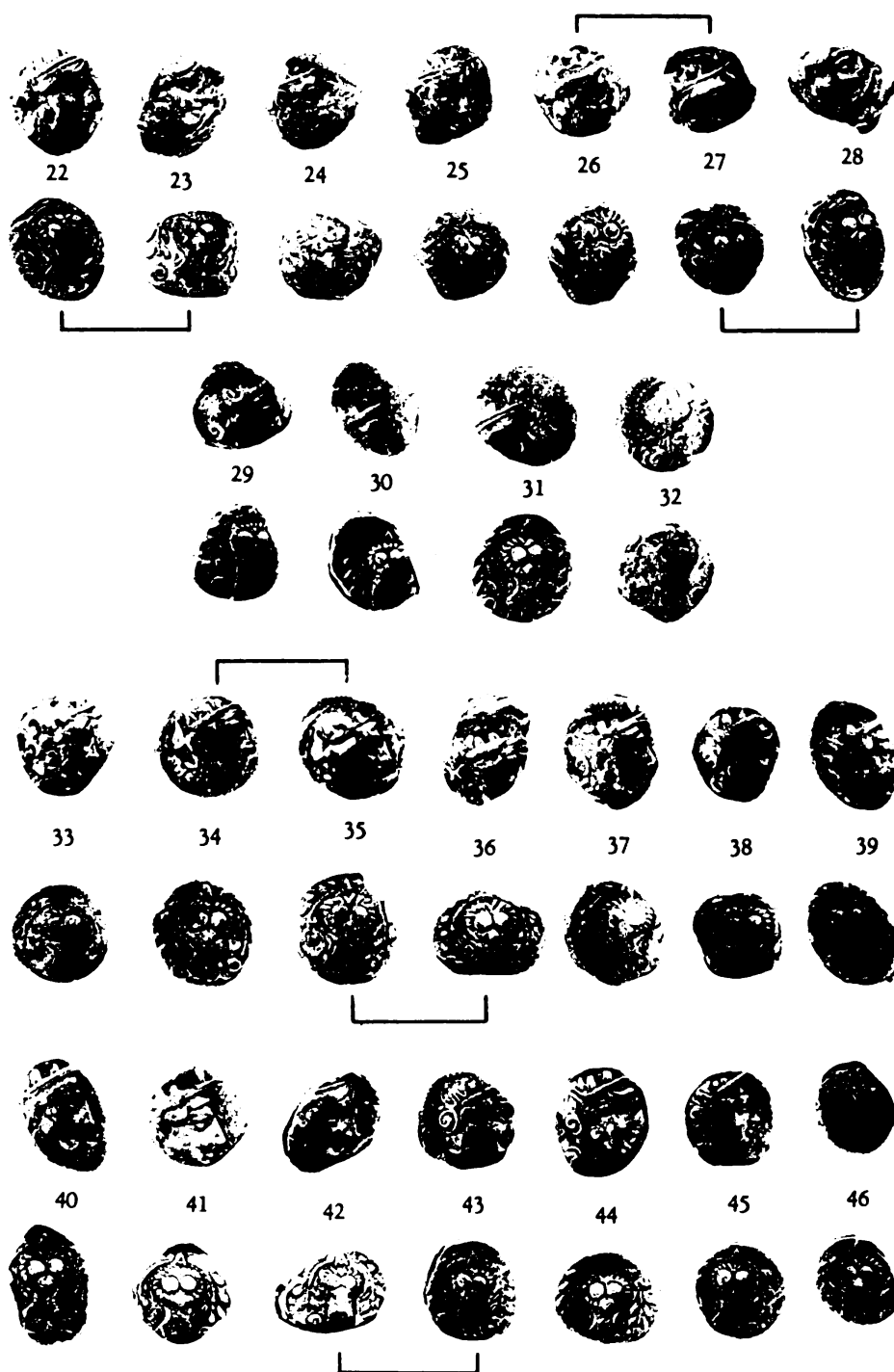


## PLATES

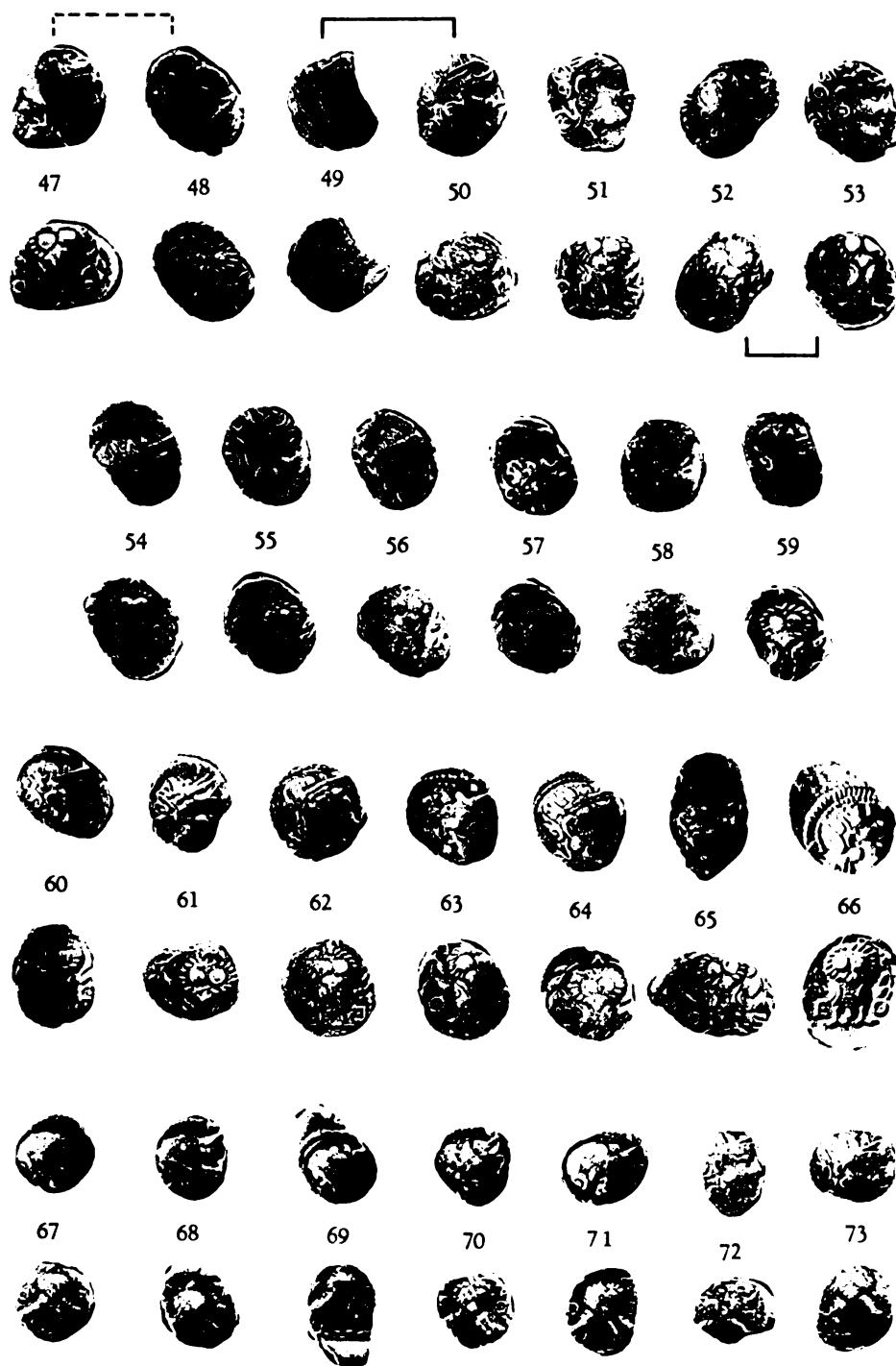




HOARD OF ATHENIAN FRACTIONS



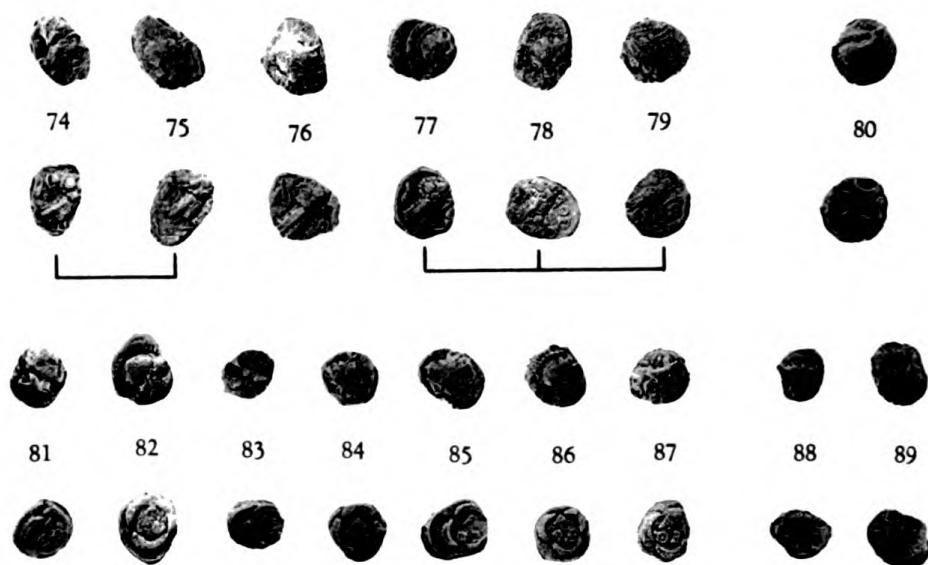
HOARD OF ATHENIAN FRACTIONS



HOARD OF ATHENIAN FRACTIONS



IV



HOARD OF ATHENIAN FRACTIONS

v



a



b



c



d



e



f



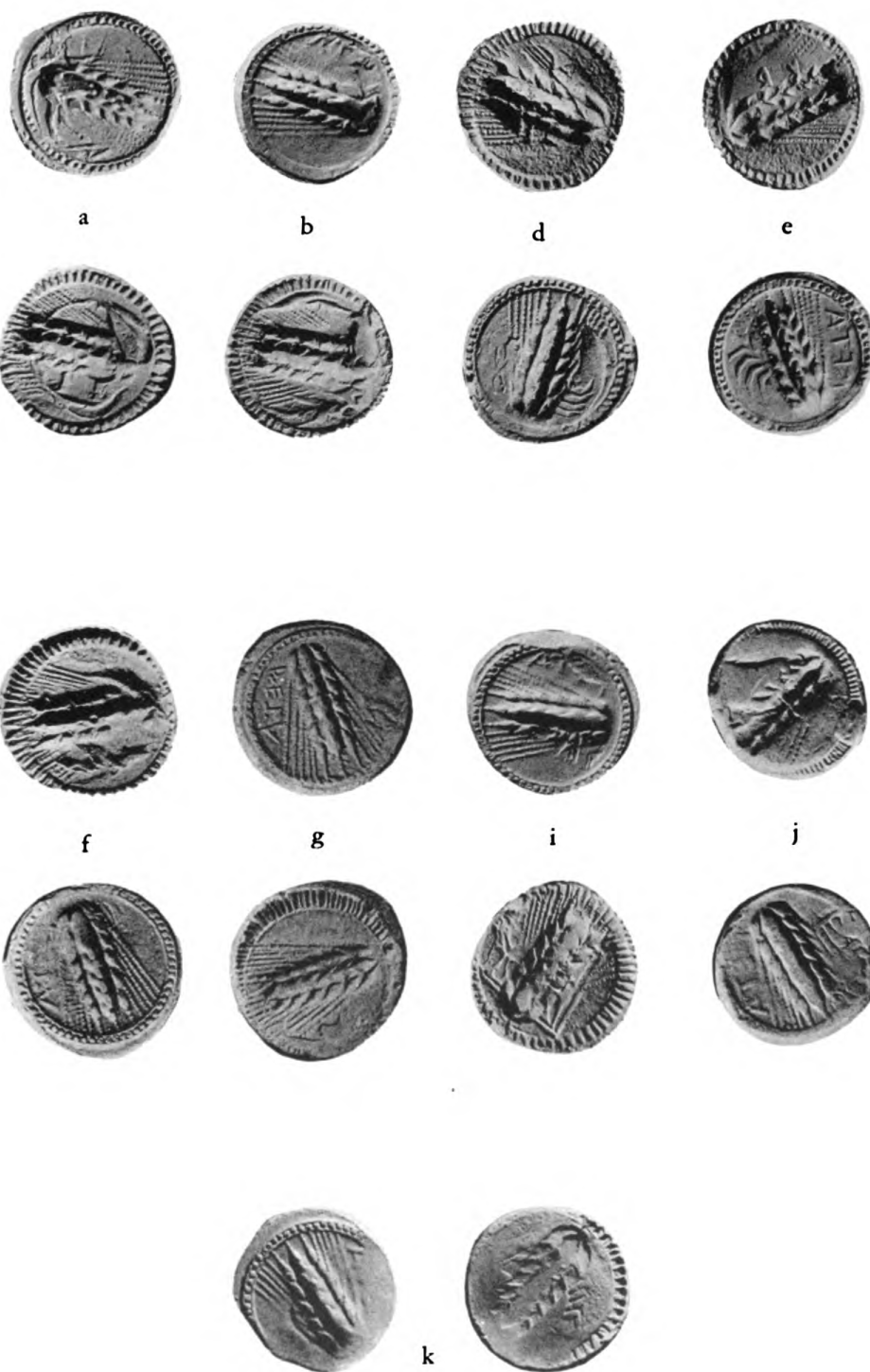
# OVERSTRIKES

Incuse over Incuse: a-e.  
Incuse over Double Relief: f.

VI



OVERSTRIKES  
Over Corinthian Staters with Swastika Reverses



OVERSTRIKES  
Having Same Metapontum Obverse Die

# VIII



a

b

c

d



e



g



i



k



m



n



ADDITIONAL OVERSTRIKES  
By Metapontum



a



b



d



e



f



j



k



m



## CROTON OVERSTRIKES

X



a



b



c



d



g



h



i



j



# CAULONIA OVERSTRIKES



TARENTUM OVERSTRIKES



# XII



b



c



e



f



g



l



i



h



q



r



s



## OVERSTRIKES OF OTHER SOUTH ITALIAN MINTS



a



c



e



h



i



m



SICILIAN OVERSTRIKES

XIV



VIIIq



VIIIg



IXj



IXj



IXe

ENLARGEMENTS



ILIUM 1-7; AZES II 8-10; DIOCLETIAN 11-12

XVI



COINS OF THE ROMAN WORLD: ANS ACCESSIONS, 1953



8



9



10



11



12



13



14



COINS OF THE ROMAN WORLD: ANS ACCESSIONS, 1953



XVIII



COINS OF THE ROMAN WORLD: ANS ACCESSIONS, 1953



22



23



COINS OF THE ROMAN WORLD: ANS ACCESSIONS, 1953  
(22-23); BRONZE ROMAN WEIGHT



XX



1



2



3



4



5



6



7a



8



9



10



11



12



14



15



16



17



18



19a



19b



19c



20



21a



22



23



24



26



27



28

# RHENISH SCHLÜSSELPFENNIGE



GERMAN COUNTERSTAMPS



1



2



3



POTOSÍ COINS OF LUIS I



ARAB-SASANIAN COINS



ARAB-SASANIAN COINS



ARAB-SASANIAN COINS



25



28



29



30



31



32



33

# ARAB-SASANIAN COINS

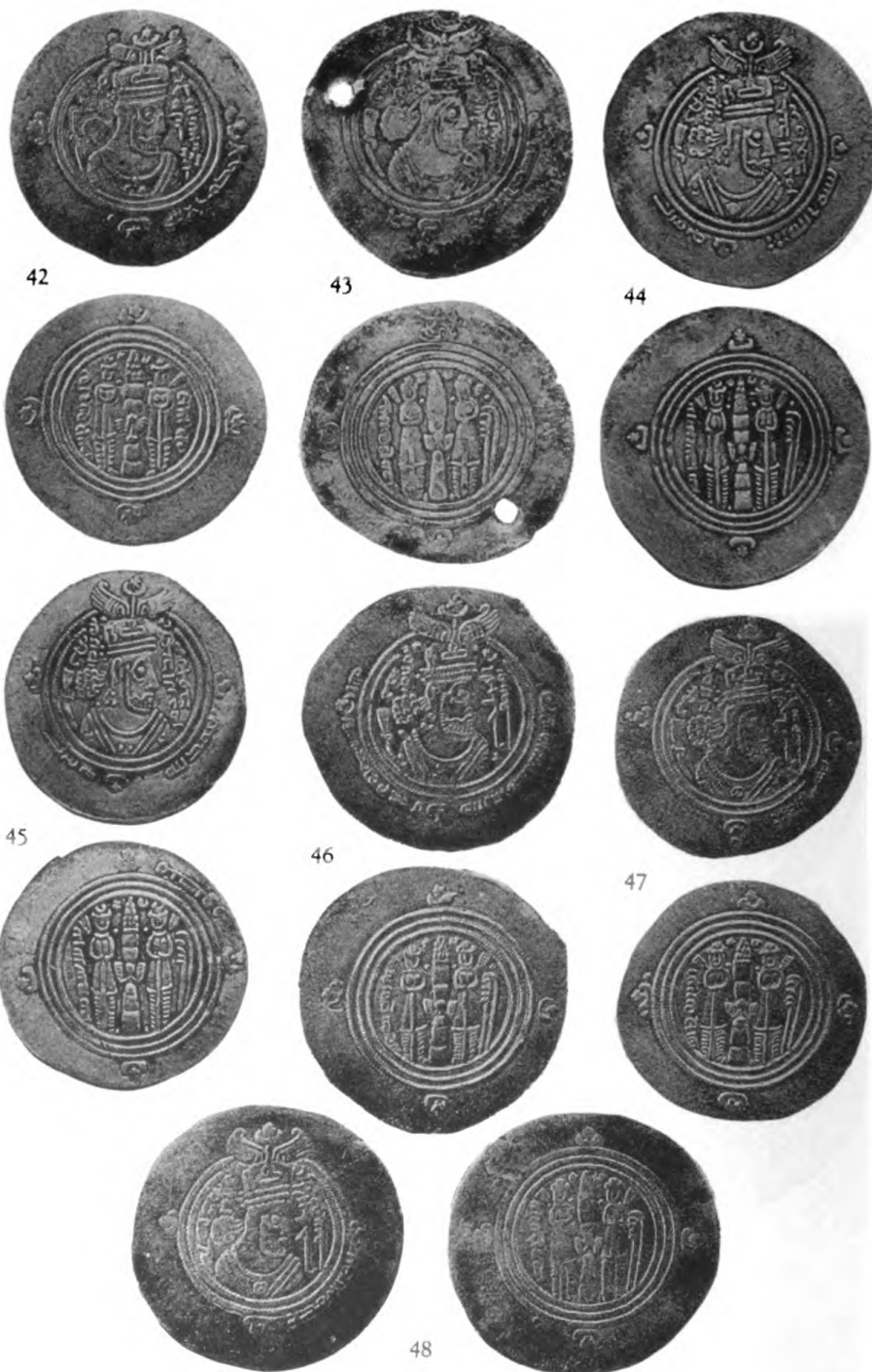




ARAB-SASANIAN COINS



XXVIII



ARAB-SASANIAN COINS



ARAB-SASANIAN COINS

XXX



BILINGUAL COINS OF HETOUM I



1



2



3

ORDER OF QUEEN T'AMAR  
(Reduced)



## TRANSCAUCASIAN COMMISSARIAT



TRANSCAUCASIAN COMMISSARIAT  
(Reduced)



TRANSCAUCASIAN COMMISSARIAT  
(Reduced)





BATUM; GEORGIAN REPUBLIC.



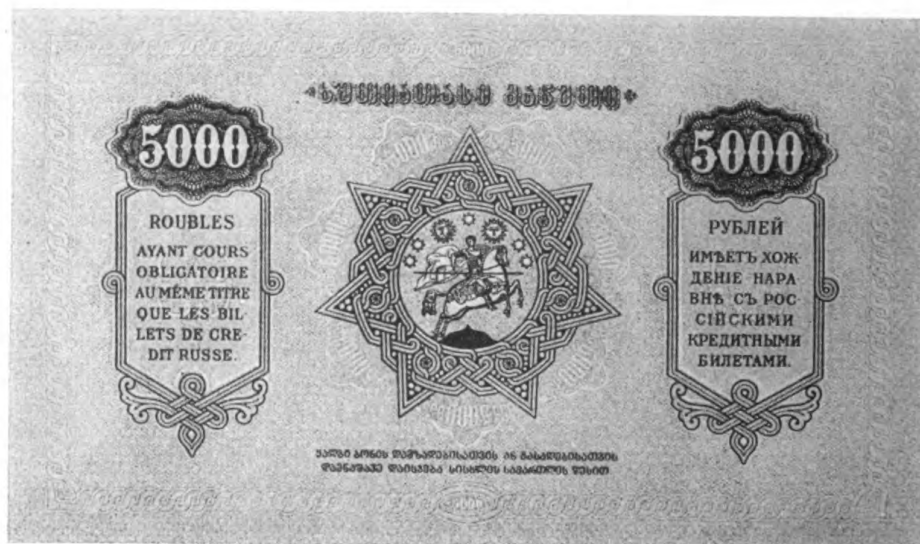


Digitized by Google

Original from  
UNIVERSITY OF MICHIGAN



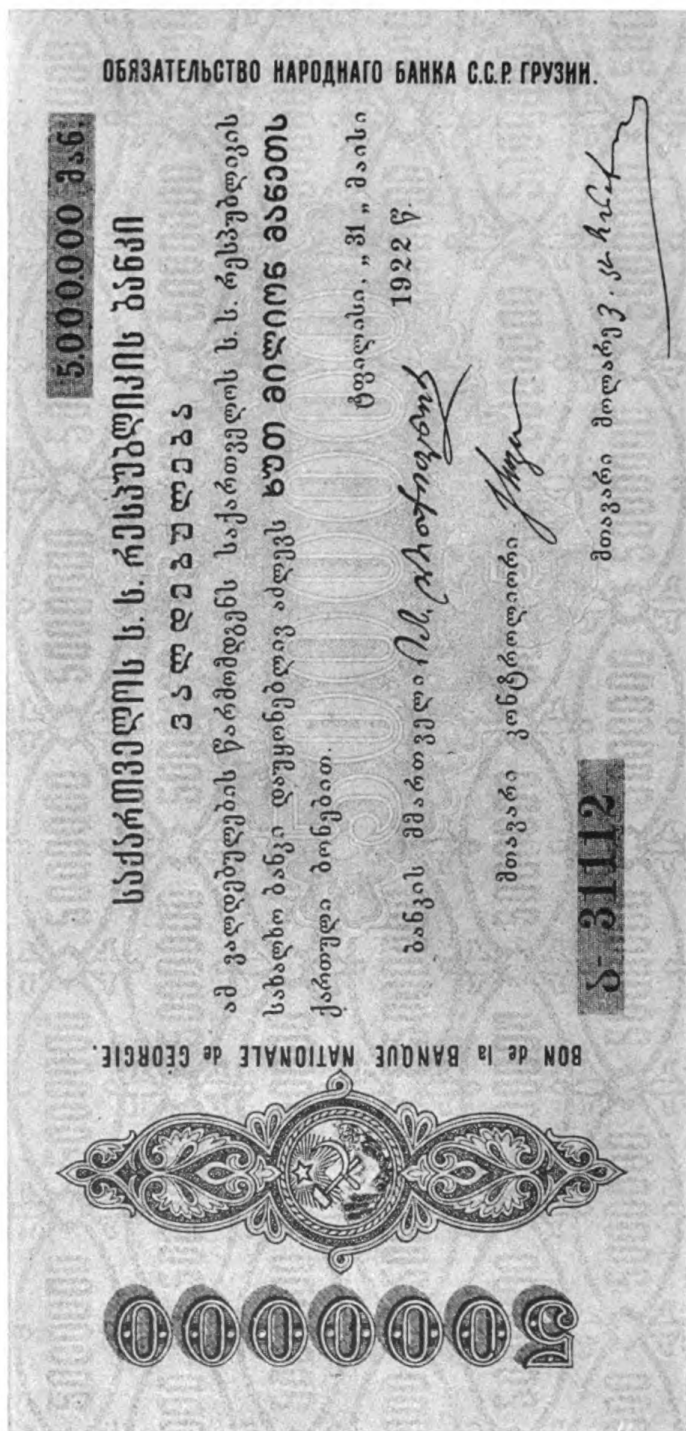
GEORGIAN REPUBLIC  
(Reduced)



GEORGIAN REPUBLIC  
(Reduced)



K'UT'AI SI BANK (Reduced); TIFLIS  
CONSUMERS' ASSOCIATION; TQIBULI MINES.



GEORGIAN SOVIET REPUBLIC (Reduced)



Original from  
UNIVERSITY OF MICHIGAN





SOVIET FEDERATIVE REPUBLIC  
(Reduced)



PICININUS MEDAL BY PISANELLO





BRYAN TOKENS



BRYAN TOKENS



CJ  
15  
A518  
v. 8

THE AMERICAN NUMISMATIC SOCIETY

# MUSEUM NOTES

VIII

THE UNIVERSITY  
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1958



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THE AMERICAN NUMISMATIC SOCIETY  
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A NEW LIGHT  
ON THE UNIQUE STATER OF MYTILENE  
(SEE PLATE I)

Lesbos, scene of the earliest Aeolic settlement—the site of Thermi being occupied by c. 3200 B.C.<sup>1</sup>—became one of the most flourishing centres of the East Greek world during the pre-Classical period. The geographical position of the island, which lay across the direct sea-route from the Troad to the Asiatic Greek cities and from those cities to mainland Greece, the possession of natural harbours, and a favourable climate, were the main factors which contributed to its prosperity.

“The history of Mytilene in the archaic age of Greece,” writes Page,<sup>2</sup> “begins with the fall of a ruling family, the Penthilidae, who claimed descent from Penthilus, the son of Orestes and Erigone, the legendary leader of the Aeolian migration to Lesbos.” Mytilene emerged from that dark age the political as well as the commercial capital of the island. Her success is reflected in the colonization of Ainos (Strabo vii. frag. 51 [52] following the tradition of Ephoros)<sup>3</sup> and in the fact that Mytilene alone of the Aeolic cities was chosen to take part in the joint foundation of the Hellenion at Naukratis (Herodotus ii. 178). The struggle, however, between Mytilene and Athens for the possession of Sigeion<sup>4</sup> about the turn of the seventh century B.C. seems to have been in the nature of a test case wherein the prize involved was future domination of the Aegean area.

Mytilene, the loser, inevitably took second place to Athens from that time forward, but her naval power assured her of continued recognition and an active part in Aegean politics.<sup>5</sup> Athens fought and held Persia, and remained free, while Lesbos succumbed and was

<sup>1</sup> W. R. Lamb, *Excavations at Thermi in Lesbos* (Cambridge, 1936), p. 211.

<sup>2</sup> Denys Page, *Sappho and Alcaeus* (Oxford, 1955), p. 149.

<sup>3</sup> Cf. J. M. F. May, *Ainos, Its History and Coinage* (London, 1950), p. 1, n. 2.

<sup>4</sup> See *ibid.*, n. 2 and pp. 152 ff.

<sup>5</sup> Cf. A. W. Gomme, *A Historical Commentary on Thucydides*, II (Oxford, 1956), p. 263 (n. to iii. 11.1); *The Athenian Tribute Lists*, III, pp. 153 and 242.

forced to accept a tyrant of Persian choice. The oligarchical constitution of Mytilene was not radically changed and Persian control clearly cannot have been very effective in the case of the islands as the example of Polykrates' rise to power in Samos shows. Unrest at such domination led eventually to the Ionian Revolt in 499 B.C. in which Lesbos, dissatisfied with the rule of the Persian sponsored tyrant Koes, participated. After the suppression of the revolt the policy of the Great King was conciliatory.

During this period four other cities had developed within Lesbos—Methymna, Antissa, Eresos and Pyrrha. The inhabitants of a further city, Arisbe, were enslaved by Methymna (Herodotus i. 151).

After early experiments in other metals, including silver, Mytilene began c. 485 B.C. to strike coins in electrum,<sup>6</sup> an artificial alloy basically of gold and silver, although containing, in addition, a varying, but sometimes substantial percentage of copper, as I have elsewhere demonstrated in my examination of the quality of Mytilenean electrum and its bearing on the operation of the Monetary Union.<sup>7</sup> The series continued until the advent of Alexander the Great and his treaty with Mytilene in 332 B.C.<sup>8</sup> Although his monometallic gold coinage must soon have withdrawn from the alloy its utility as a medium of exchange, the existence of late copies and forgeries<sup>9</sup> suggest that some of the *hektai* actually continued in circulation, or were known at least, at a much later date. Mytilene appears, in normal circumstances, to have coined only in the fractional denomination and so differs from Kyzikos, the other important Asiatic Greek mint of the period issuing white gold, or electrum.<sup>10</sup> Kyzikos struck regularly both staters and *hektai*.<sup>11</sup> The discovery, therefore,

<sup>6</sup> Warwick Wroth, *British Museum Catalogue of Greek Coins, Troas, Aeolis, and Lesbos* (London, 1894), pp. 150 ff. and pls. xxx ff – henceforward abbreviated as *BMC Troas*.

<sup>7</sup> J. F. Healy, "The Composition of Mytilenean electrum," *Congrès International de Numismatique II (Actes)*, p. 534. This article is henceforward abbreviated as *Congrès*. Cf. also op. cit. (n. 29 below).

<sup>8</sup> There is probably an allusion to Alexander the Great in the latest types at Mytilene. See *BMC Troas*, p. 167, nos. 110–11, pl. xxxiv, 21–22.

<sup>9</sup> *BMC Troas*, p. 164, no. 76, pl. xxxiii, 19: *Obv.* helmeted head of Athena to l., *Rev.* facing Silenos head.

<sup>10</sup> For the distinction between white gold and electrum see *Congrès*, pp. 529–30.

<sup>11</sup> PLATE I, 10–12 and 10a–12a. Cf. Warwick Wroth, *BMC Mysia*, ed. Reginald Stuart Poole (London, 1892), pls. iv–v generally.

in 1889 of a single stater<sup>12</sup> inscribed MYTI (as yet the sole surviving specimen<sup>13</sup>) parallel in appearance, character, and legend with the *hektai* inscribed M or ΛΕ,<sup>14</sup> and so clearly from the mint of Mytilene, raised a number of problems in connection with the significance of such an issue and its relationship to the series of *hektai* (PLATE I, 1).

*Obv.* The head of a youthful Apollo,<sup>15</sup> in profile right. The form of his accurately represented profile eye, with its asymmetrically marked lids suggests a date well within the second half of the fifth century B.C. The facial outline is broken by the brow while the line of the chin cuts rather deeply

<sup>12</sup> Warwick Wroth, "Greek Coins Acquired by the British Museum in 1889," *NC*, 3rd ser., X (1890), pp. 325–26, pl. xix, 16, and *BMC Troas*, pl. xxxii, 1.

<sup>13</sup> The discovery of a second stater, carrying a head of Artemis as its obverse type, was rumoured as long ago as 1943. I have, however, found no trace of such an issue.

<sup>14</sup> M occurs on early examples: *BMC Troas*, p. 156, nos. 5–6, pl. xxxi, 10 (*Obv.* *protome* of bull to l.), and later; p. 160, no. 50, pl. xxxii, 20 (*Rev.* bull's head to l.); p. 161, no. 55, pl. xxxii, 24 (*Rev.* Corinthian helmet to r.). ΛΕ occurs on early examples: E. Babelon, *Traité*, no. 2138, pl. clix, 14 and elsewhere (*Obv.* ram's head to r.); *BMC Troas*, p. 157, nos. 15–16, pl. xxxi, 18–19 (*protome* of horse to r.); p. 157, nos. 17–18, pl. xxxi, 20 (*Obv.* lion's head to r.); similarly on a head of Athena, helmeted to r.—the example now in the British Museum collection and comparable with the later specimen—*BMC Troas*, p. 159, no. 37, pl. xxxii, 9 (*Rev.* confronted heads of calves). In addition one *hekte* carries the inscription A for Antissa (*BMC Troas*, p. 161, no. 51, pl. xxxii, 21).

The unimaginative objection that there never was a state or city of Lesbos and the explanation of the legends as abbreviated forms of magisterial names (J. Hammer, "Der Feingehalt der griechischen und römischen Münzen," *ZfN*, XXVI, 1908, pp. 45 ff.) is untenable. The combined evidence of electrum and silver types shows many forms of the legend abbreviated and complete from M-MYTIΛHNAION (Mytilene) and MA-MAΘYMNAIOΣ (Methymna).

It is possible that with the use of the legend ΛΕ Mytilene was trying to assert a right to control the internal policy of the other cities of Lesbos in furtherance of her desire to merge them. Cf. Thucydides iii.2.3: "μηνυται γίνονται τοῖς Ἀθηναίοις ὅτι ξυνοίκιζουσὶ τε τὴν Λέσβον ἐς τὴν Μυτιλήνην βίβλ. . ." and Diodorus Siculus iii. 55. 1. Such symbolism would, however, be early.

<sup>15</sup> The evidence of the coin types generally and of late inscriptions suggests that the main divinities worshiped on Lesbos were Apollo (at Mytilene) and Dionysos (at Methymna): cf. *Hom. Hymn* iii (to Apollo), 29 ff.

On the stater see also: *JHS*, 1897, p. 86, pl. ii, 9; *Proceedings of the British Academy*, iii, pl. ii, 5; E. Babelon, *Traité*, pl. clix, 1, *Cambridge Ancient History* (vol. of plates) ii, pls. 1f.; *British Museum Guide to Greek Coins*, pl. viii, 23; Charles T. Seltman, *Greek Coins*<sup>2</sup>, pl. xvi, 16. Excellent enlargements of the coin showing the detail of the engraving are to be found in: G. F. Hill, *Select Greek Coins* (Paris and Brussels, 1927), pl. ii, 3, and Charles T. Seltman, *Masterpieces of Greek Coinage* (Oxford, 1949), p. 62, fig. 22.

into the neck. Both chin and mouth, with fully formed slightly pursed lips, are well modelled, as is the whole contour of the face generally.

He wears a standard, regularly composed laureate wreath, or crown, formed by a double row of four blob-shaped leaves symmetrically disposed either side of a central stem which ends in a smaller, projecting leaf. The hair above the wreath hangs down on to the nape of the neck but is comparatively short. A further curl is visible by the ear.

Although the coin surface is rather worn there is ample evidence of the fine quality of the original engraving.

The inscription MYTI is clearly visible above the head. There are two cracks in the flan edge.

*Rev.* Quadripartite incuse.

Wt. 15.42 gms: diametral size 19.05 mms: Specific Gravity 10.44.

The Apollo type is a representation which, in spirit, epitomises the general character of the best in fifth-century die-engraving and, in the words of one critic<sup>16</sup> "partakes of a vitality of a kind that astonishes even now, which animated Greece for many centuries. It was apparent in many ways and among the artists of the fifth century B.C. it showed itself most clearly in a pre-occupation with sparkling youth."

A detailed study of the mint of Mytilene and the arrangement, by die-sequence, of all known accessible *hektai*, from the combined evidence of die-comparison and from the interpretation of trends in other Classical art forms, makes it possible to re-examine the problems connected with the unique stater, its relation to the *hektai* and the probable reason for the survival of but a single issue in this denomination.

The difficulty in assigning the stater to its correct numismatic context lies in the fact that the Apollo head shows a degree of sensitivity unusual, perhaps, in the many representations of that god elsewhere in the Mytilenean series<sup>17</sup> (PLATE I, 5-9). One small group of *hektai* with like obverse type of the same character and clearly deriving from the same inspiration, has survived; the three type

<sup>16</sup> Seltman, *Masterpieces of Greek Coinage*, pp. 62 f.

<sup>17</sup> One of the earliest attempts at dating the coin (Katharine A. McDowall, "Two Heads Related to the Choiseul-Gouffier Type," *JHS*, XXIV, 1904, pp. 203 ff.) alleged a stylistic parallel between the stater and a sculptured head in the British Museum. The author saw in the coin some reflection of the Choiseul-Gouffier Apollo. A closer analysis, however, of the form and character of the two works reveals a fundamental difference in the underlying conceptions. The sculptured head is powerful in appearance, but that of the coin is somewhat triangular in profile and of infinitely more delicate proportions.

combinations, here published in their die-sequence for the first time (PLATE I, 2–4), provide conclusive evidence. Such type parallelism between stater and fractional denomination (PLATE I, 10–12 and 10a–12a) is a common feature of issues from Kyzikos.<sup>18</sup> A further reminiscence of the practice of that mint occurs in the reverse of the unique stater which is a plain quadripartite incuse without type. The reverses of the *hektai*, however, carry in *period I* (c. 485–55 B.C.)<sup>19</sup> a type in *intaglio*<sup>20</sup> and, in several examples, a miniature version of the replaced incuse in the field,<sup>21</sup> or, in *period II*, a type in *relief*.<sup>22</sup> The existence of a second type in place of the standard incuse is rare in the case of electrum issues;<sup>23</sup> the use of *intaglio* is unique to Mytilene.

<sup>18</sup> See also Wroth, *BMC Mysia*, pl. iv, 2–3 (helmeted head of Athena to l.), 7 and 9 (Nike running to l.), 11–12 (youthful male kneeling to r.); and pl. v, 1–2 (facing lion scalp), 5–6 (seated lion to l.).

<sup>19</sup> The evidence of the newly established die-sequence shows that the transition between series I and II—there is no break—occurs about the *middle* of the fifth century B.C. Comparison of the types involved with representations common in red-figured vase-painting of the same period confirms this chronology. Contrast the view expressed by Robinson, *Hesperia, Supplement VIII* (1949), p. 332: “The electrum coinage falls into two parts, the earlier with incuse reverse type, the later with reverse type in relief. There is a definite break between the two which falls well on in the second half of the (fifth) century. Occasional bullion, or silver issues go down to the same point, which can only be the reduction of the city in 427. The unique electrum stater is of this date.”

<sup>20</sup> *BMC Troas*, pp. 158 ff., nos. 1–27, pl. xxxi, 6–28. The type is struck from a relief die and the practice is comparable with that of the Magna Graecian mints during the sixth century B.C. (Charles T. Seltman, “The Problem of the First Italiote Coins,” *NC*, 6th ser., IX, 1949, pp. 1 ff.) although in the case of Mytilene the reverse type always differs from that of the obverse.

<sup>21</sup> *BMC Troas*, nos. 13–14, pl. xxxi, 16–17. Cf. also the incuse of rectangular pattern found behind, but separated from, the neck truncation in nos. 1–10, and 17–25, pl. xxxi, 6–13 and 20–26.

<sup>22</sup> *BMC Troas*, pp. 158 ff., nos. 29–122, pls. xxxii, 2–xxxiv. A *hekte* from the Page-Perkins collection Boston Museum of Fine Arts (Brett, *Catalogue*, p. 219, no. 1690, pl. 81) has an *intaglio* type as its reverse, but this, combined with the fact that the obverse head of Apollo faces left, suggests that it was either due to some fault in manufacture or is not genuine.

<sup>23</sup> The coins struck by the Alkmaionid exiles at Delphi in 510 B.C. can hardly be said to have employed a second type for the reverse is merely the letter Δ (for ΔΑΛΦΙΚΟΝ): cf. Seltman, *Athens, Its History and Coinage*, pp. 80 ff., and pl. xiv. Thebes issued electrum with two true types (394 B.C.) from gold received from Persia and diluted with silver: Seltman, *Greek Coins*<sup>2</sup>, pl. xxxiii, 8. So also Dionysios at Syracuse; *ibid.*, pl. xliii, 10–11.

Both obverse dies in the case of the stater and the *hektai* appear to have been cut by the same "hand," for the proportions, profile, and individual details are identical: the eye, truncation of the neck, wreath of laurel and hair engraving show the same form. The reverse types of the *hektai* are (a) ram *protomai* heraldically confronted with floral motifs of three, or of five members above and below in the field, (b) the head of a goat in profile right, (c) a Silenos head in profile right (PLATE I, nos. 2–4); these share obverses which overlap (PLATE I, nos. 2 and 3 are from the same die), thus enabling the relative positions of the issues to be established. The position of the group within the overall scheme of fifth-century issues can also be determined with no small degree of certainty by comparing it with other types current during the classical period. In general character and style the Apollo head is similar to the representation of Dionysos (PLATE I, no. 13) found on Naxian coins,<sup>24</sup> although an even closer parallel exists in the Apollo type (PLATE I, no. 14) from Katana.<sup>25</sup> Such stylistic considerations clearly led Regling<sup>26</sup> to include the stater in the category of the "parthenonischer Stil" (440–400 B.C.) and, more recently, Robinson<sup>27</sup> to assign it to the period ending in the reduction of Mytilene in 427 B.C.

One further important strand of evidence, apparently not so far considered, or understood, is the quality of the alloy from which the stater was struck. The colour of the coin itself, although this is not necessarily significant in all cases, for surface enrichment<sup>28</sup> can affect it, suggests that the alloy was of poor quality, and, in the words of the monetary treaty between Mytilene and Phokaia,<sup>29</sup> was ὑδαρής.

<sup>24</sup> H. A. Cahn, *Die Münzen der sizilischen Stadt Naxos*, pl. v, 106. This issue is datable to the period c. 420–403 B.C.

<sup>25</sup> This coin, formerly from the Lloyd collection (Robinson, *SNG II*, pl. xxxi, 898), is now in the British Museum. The head of Apollo here represented is more developed in style than the type in Seltman, *Greek Coins*<sup>2</sup>, pl. xxvi, 2 and dated by him to the year 450 B.C. On stylistic grounds a date c. 430 B.C. is probable. I am indebted to Monsieur H. Herzfelder and to Mr. G. K. Jenkins for advice on this problem.

<sup>26</sup> *Antike Münzen als Kunstwerk*, pl. xix, 430.

<sup>27</sup> Robinson, loc. cit. (n. 19 above).

<sup>28</sup> Cf. *Congrès*, p. 533, n. 4: this is also a possible source of error in X-Ray analysis.

<sup>29</sup> *IG xii*, ii, 1. See also J. F. Healy, "Notes on the Monetary Union between Mytilene and Phokaia," *JHS*, lxxvii, (1957), pt. ii, pp. 267–8.

or dilute. The low specific gravity of 10.44<sup>30</sup> confirms this (the specific gravity of gold, silver and copper being 19.72, 10.49, and 8.9 respectively). The combined evidence, therefore, of colour and low specific gravity make it certain that there is present a large percentage of copper which would help to preserve its "golden" appearance.<sup>31</sup> But the coin is not plated (*i.e.* with a copper core surrounded by an envelope of gold), as an examination of the inside, possible through two cracks in the flan edge, reveals. With the exception of obvious forgeries, the quality of both series of *hektai* at Mytilene remains constant within the limits prescribed by metallurgical techniques. This is consistent with the terms of the monetary treaty and it now seems probable that, although the exact date of commencement of the operation of the treaty is still unknown, the main provisions had come into force during the fifth century B.C.<sup>32</sup> The low quality of the stater must, therefore, have been deliberate and official and the reason is surely to be sought in some crisis in the affairs of Mytilene when raw materials, especially gold, were scarce. Gold had to be imported although silver was mined locally.<sup>33</sup>

The history of Mytilene during the fifth century B.C. has an important bearing on the present problems. Mytilene had been one of the earliest cities to join the Delian league in the first year of its formation (478/7 B.C.).<sup>34</sup> The relations between Athens and the cities of the league were not uniform, the Athenians deciding which should supply ships and which pay money. From the outset Mytilene was non-tributary.<sup>35</sup> Her constitution was oligarchical and both Mytileneans and Chians were called autonomous by the envoys of the former when seeking aid at Sparta in 428 B.C. (Thucydides iii. 10. 5). This means that Athens had not interfered politically, for such interference would have been a flagrant breach of autonomy.<sup>36</sup> Furthermore the multiplicity of coin types and the continuity of issue of electrum during the period under consideration proves that there was

<sup>30</sup> *Congrès*, especially p. 532.

<sup>31</sup> Cf. J. Hammer, *ZfN* xxvi, pp. 45 ff.

<sup>32</sup> Cf. *op. cit.* (n. 29 above), especially p. 268.

<sup>33</sup> R. J. Forbes, *Metallurgy in Antiquity*, p. 192 and fig. 42.

<sup>34</sup> *ATL* III, pp. 203 ff.

<sup>35</sup> See above (n. 5).

<sup>36</sup> *ATL* III, p. 153.



no restriction on the striking of electrum comparable with that imposed in the case of silver.<sup>37</sup> It is just possible, therefore, that Athens may have prevented Mytilene from issuing in any denomination other than the *hekte*.

With the death of Pericles, however, relations between Mytilene and Athens seem rapidly to have deteriorated. The attempted secession from the league by Mytilene was for Athens a serious gesture significant of the growing unrest among her allies. The increase in Mytilene's prosperity, her earlier colonization of the Aeolid, and more recently her extension of power within Lesbos itself, manifested in the desire to unite the other cities,<sup>38</sup> her aristocratic constitution, and above all her naval power, were factors likely to arouse Athens to action at such a critical stage in the Peloponnesian war. Mytilene, although a privileged member of the league may have desired complete autonomy in external affairs as well as in the determination of domestic policy.<sup>39</sup> Antissa, Eresos and Pyrrha were sympathetic towards Mytilene, but Methymna remained loyal to Athens. This loyalty was mirrored in the persistence of Athenian inspired types on her coins.<sup>40</sup> One incident in the opening phases of the well-known operations which followed the secession is not perhaps without significance. Athens' initial assault, planned as a surprise attack while the people of Mytilene were celebrating a festival of Apollo Maloeis at a shrine to the north of the city, outside the walls (Thucydides iii. 3. 3), failed when prior warning was received. The Apollo type of the stater may have alluded to this.<sup>41</sup>

The poor quality of the alloy, considered in light of the history of the period, leads to the conclusion that the stater was in fact issued during the siege of Mytilene so that the survival of but one specimen from this short period of issue is not surprising.

<sup>37</sup> Robinson, *op. cit.* (n. 19 above), pp. 330 ff.

<sup>38</sup> Loc. cit. (n. 14 above).

<sup>39</sup> Thucydides iii. 42.

<sup>40</sup> *BMC Troas*, p. lxxv. The principal type of the coins of Methymna is, from first to last, a head of Athena, probably evidencing not only the importance of the worship of the divinity, but also the close political connection that subsisted between Methymna and Athens. See also *ibid.*, pl. xxxvi, 6-8 and 10-14 (silver) and 16-17 (bronze).

<sup>41</sup> So also Robinson, *op. cit.* (n. 19 above), p. 332, sees in the stater type a representation of Apollo *Maloeis*.

The final problem, however, the reason for the issue of the stater denomination, is more difficult of solution. It is possible, though not probable that staters were made for the payment of mercenaries.<sup>42</sup> It is instructive to remember that the *hektai* themselves are, in style and alloy, successors of the coins issued by the cities at the time of the Ionian revolt.<sup>43</sup> The cities had proclaimed their freedom by a return to the use of white gold, or electrum—alloys employed before the Persian conquest.<sup>44</sup> The Mytilenean gesture against Athens, however, may have lain, not in the alloy used so much as in the actual denomination and inscription MYTI. A modern parallel occurred some years ago when an Austrian printing office received an order for a set of stamps for the new republic of Maluku (or Molucca) Selantan, allegedly a state in the East Indies. The people who had thus tricked the Austrians were revolutionaries who were hoping to break away from Indonesia and to create their republic—a revolution in fact by stamps.

Cities and states in the ancient world jealously guarded their right to issue coinage, symbolic of their political independence. The unique stater would seem, therefore, to have proclaimed Mytilene's secession from the Delian league and her freedom, albeit temporary, from any control on the part of Athens.

J. F. HEALY

#### SOURCES OF COINS ILLUSTRATED ON PLATE I

The coins illustrated are from the following sources: British Museum (nos. 1, 5—6, 10—12, 10a—12a and 13—14), Cabinet des Médailles, Paris (no. 2), the Royal Collection, Copenhagen (no. 4), Locker—Lampson (no. 7), Lockett (no. 9), well-known private collections in Paris (no. 2), and Munich (no. 3). My thanks are due to the Directors and Staffs of the Museums here mentioned and also to the private collectors for providing material, or facilities for study.

<sup>42</sup> Scythian archers are mentioned in Thucydides iii, 2, 1 (cf. also iii, 18).

<sup>43</sup> See *JHS* xxxi (1911), pp. 151 ff. (pl. vii) and *JHS* xxxiii (1913), p. 105 and *R.N.* 1911, pp. 60–8 (pls. i–ii).

<sup>44</sup> Cf. P. Gardner, *History of Ancient Coinage*, pp. 233 ff.



## THE FIRST CIVIC TETRADRACHMS OF ILIUM

(SEE PLATES II–V)

The tetradrachms of Ilium bearing her own types, and the name of Athena must obviously have been produced with the acquiescence of the dominant power in Asia Minor and we may be sure not only on grounds of general probability, but on the important analogy of the dated tetradrachms of Alexandria Troas that this power was Pergamum. It is impossible to say exactly when the new series began, but since both Pergamum and Ilium profited by the negotiations at Apamea in 188 when the defeated Antiochus III came to terms with the victorious Romans, it is to this time that the first issue of civic tetradrachms is generally dated.<sup>1</sup>

<sup>1</sup> Hans von Fritze in W. Dörpfeld, *Troja und Ilion*, pp. 481 f., Nos. 16–20; *BMC Troas*, p. 58, Nos. 10–13; Hanson, *Attalids*, pp. 204 f. This dating is doubtless the safest course but it must be remarked that we do not appear to have to do with continuous yearly issues and that if there are gaps in the series and it is to be spread over more years than there are varieties it is not impossible that the first were issued before Magnesia. To guide us in dating we have historical probability and style, with the analogy of other series which may be roughly or strictly parallel. So far as historical probability goes there are two periods when the cities of Asia might have begun to coin their own types: that between 218, when Attalus had won them back from Achaeus and 197 when Antiochus began to reabsorb them into his empire; and that immediately following the collapse of Antiochus' power in 188. The former period is clearly too short to accommodate all the series 1–21. We must confess, however, that we know so little of the years 197–190 that we cannot feel any assurance that here and there a city may not have had enough liberty to strike silver in spite of Antiochus. If this were true of any city, however, one would expect it to be true of Alexandria Troas, Lampsacus and Smyrna. In the first case the earliest tetradrachm that we know is twenty-five years later than the battle of Magnesia, and in neither of the other cases is there any evidence to call into question the common assumption that they began not earlier than 188. (Lampsacus: Agnes Baldwin [Brett], "Lampsakos; the Gold Staters, Silver and Bronze Coinages," *American Journal of Numismatics* LIII [1924] p. 73; Smyrna: *BMC Ionia*, pp. xlviii f. J. Grafton Milne assumes this *terminus a quo* without discussion, "The Silver Coinage of Smyrna," *NC* 4th ser., Vol. XIV [1914], pp. 273–298.)

A valuable fixed point in style has been established by dating the beginning of the Athenian New Style in 196 (Margaret Thompson, "The Beginning of the

The specimens known to him were arranged by Kurt Regling in connection with the publication of a hoard found at Babylon (*ZfN*, 38 [1928], pp. 118–123). This list has been expanded here to include new material and an attempt has been made to work out the sequence somewhat more fully than he did. Specimens illustrated on the plates are marked with an asterisk (\*).

188–133 B.C.

Without monogram

- \*1. Head of Athena r. in  $\text{ΑΘΗΝΑΣ}$  on r.,  $\text{ΙΛΙΑΔΟΣ}$  on l.  
triple crested helmet Athena Ilias r. Before her, owl.  
In ex.  $\text{ΞΑΝΘΙΠΠΟΥ}$ .





Paris 15.30 gr. (broken). From the Latakia Hoard. Noe (*Bibliography of Greek Coin Hoards* [New York, 1925] pp. 114 f.

- \*2. Similar Similar. In ex.  $\text{ΑΝΤΙΦΑΝΟΥ}$ .  
BM (cast), Regling No. 71, 13.45 gr., *Jameson Collection* No. 2231,  
16.69 gr., *Pozzi Collection* No. 2275, 16.76 gr.
3. Same die as no. 2 Similar. In ex.  $\text{ΘΕΡΣΑΝΔΡΟΥ}$ .  
Bourgey Sale (Paris) Dec. 5, 1932 No. 213.




With a single monogram

- \*4. Same die as no. 2 Similar. In ex.  $\text{ΜΗΤΡΙΚΕΤΟΥ}$ .  
In field l.  $\text{Λ}$ .  
Paris 16.72 gr.
- \*5. Similar Similar but Nike r. instead of owl.  
In ex.  $\text{ΔΙΟΝΥΣΙΟΥ}$ . In field l.  $\text{Π}$ .  
Paris 16.72 gr.
6. Similar Similar but owl instead of Nike.  
In ex.  $\text{ΔΙΟΝΥΣΟΔΩΡΟΥ}$ .  
In field l.  $\text{Π}$ .  
Regling No. 74, 14.40 gr.
7. Similar Similar but in field l.  $\text{Π}$ .  
Regling No. 75, 13.01 gr.



Athenian New Style Coinage" *Museum Notes* V, pp. 25–33). This would accord well enough with a date of 188 for the first issue of Ilium and offers an interesting historical analogy. If the New Style began in consequence of the freeing of Greece by Flamininus in 196, the similar coins of Asia were in consequence of the freeing of the Asiatic Greeks at Apamea.

- \*8. Same die as no. 7      Similar. In ex. ΑΠΗΜΑΝΤΟΥ.  
In field l. .  
Hague 16.90 gr.
- \*9. Same die as no. 7      Similar but in field l. .  
Paris 16.72 gr.
10. Similar      Similar. In ex. ΑΡΕΟΥ.  
In field l. .  
Regling No. 73, 13.51 gr.
- \*11. Similar      Similar. In ex. ΠΡΩΤΟΚΛΕΙΔΟΥ.  
In field l. .  
Seyrig

## With caduceus

- \*12. Similar      Similar. In ex. ΜΕΛΑΝΤΟΥ.  
In field l.  over caduceus.  
BM (cast), *Jameson Collection* No. 1456, 16.42 gr. *Hamburger Sale* 11.6.30  
No. 311.
13. Similar      Similar. In ex. ΑΠΟΛΛΟΔΩΡΟΥ.  
In field l.  over caduceus.  
Regling No. 72, 15.04 gr., Berlin, 14.93 gr.
- \*14. Similar      Similar. In ex. ΕΥΒΟΥΛΙΔΟΥ.  
In field l.  over caduceus.  
ANS
- 14a. Similar      Similar. Name and monogram illegible.  
In field l., caduceus.  
Winterthur (cast)

## Different symbols

- \*15. Similar      Similar. In ex. ΣΩΤΗΡΙΔΟΥ.  
In field l.  over Gorgon's head.  
von Aulock 15.93. Berlin, 15.90 gr.
- \*16. Similar      Similar. In ex. ΛΥΣΙΚΛΕΟΥ.  
In field l.  over star.  
In field r. helmet.  
Cahn; another specimen in a dealer's hands.

\*17. Similar

Similar. In ex. **ΙΩΙΛΟΥ**In field r. **ΚΛΕ ΩΝΟΣ**.

In field l. winged caduceus.

BM 16.59 gr.

\*18. Similar (Samedie?)

Similar. In ex. **ΑΝΤΙΦΑΝΟΥ**.In field **ΚΛΕ ΩΝΟΣ**.

Cahn 16.35 gr.

A cast sent to me by the courtesy of Dr. Cahn. Whether this Antiphanes is the magistrate of no. 2 or a son, the present coin is later, as the style of the obverse shows. It is remarkable, however, that there are here only names, though the rule from no. 12 on has been one name, one monogram and one symbol, except for no. 17 where there are two names and a symbol. Whatever the reason for showing only two officials here, it is not possible to separate no. 18 far from no. 17.

\*19.<sup>1a</sup> Unknown

Similar. In ex. in two lines

**ΔΙΟΠΕΙΘΟΥ ΤΟΥ ΞΙΝΙΑ**In field l. **Π**; r. Nike r.Winterthur (cast of *rev.*)

\*20. Debased head of Athena r. Similar. In ex. in two lines

Helmet bound with laurel **ΗΓΗΣΙΔΗΜΟΥ ΤΟΥ ΔΙΟΦΑΝΟΥ**.In field l. **Α**; r. owl on palm.

WSM Pl. lxxxv B. There is no indication of the whereabouts of the original.

\*21. Similar Helmet bound  
with laurel

Similar. In ex. in two lines

**ΦΙΛΟΚΛΕΟΥΣ ΚΑΙ ΦΙΛΩΝΟΣ**.In field r. downward **ΥΛΛΩΝ**.In field l. **Ξ**. No owl.

ANS

These tetradrachms, with their later followers and their neighbors from Alexandria Troas, form the most interesting episode in the history of the two mints and deserve detailed consideration.

<sup>1a</sup> Since this article has gone to press I have discovered that No. 19 should come in the next group of tetradrachms, and will appear there in the complete catalogue of the Troy excavation coins. The original is in Munich.

In the first place they are ostensibly the coins not of Ilium but of Athena Ilias. Theorists have long ago suggested that a temple might be the issuing power as well as a town,<sup>2</sup> and there are cases where the connection between the coins and a deity is explicit,<sup>3</sup> but the closest parallel is, of course, Alexandria which copies the example of Ilium. We are not surprised to find that the great importance which Athena had had for the city in an earlier age was continued into the second century, but this inscription is an innovation which is not shared by the accompanying bronze, and which no other class of Ilian coin uses earlier or later. It will be noted that this largest and most detailed picture of the cult statue has none of the archaistic quality of earliest times, but shows the goddess made over according to late Hellenistic taste; we certainly do not need to believe that the statue itself had been changed.

In spite of the very explicit legend there is no doubt that the coins are a product of the city of Ilium which had now come to dominate the League of Cities,<sup>4</sup> exactly as the tetradrachms inscribed ΑΠΟΛΛΩΝΟΣ ΙΜΙΘΕΩΣ are products of the city of Alexandria Troas, where there is no alternative of a league. Of course, the men whose names appear in the exergue may have held an official position in the temple, but their primary position is that of chief magistrate of the town. A great deal of comparable material shows that a name in the genitive, with or without ἐπὶ is normally that of the eponymous official.<sup>5</sup> Why are the names of Xanthippus and his fellows so prominently displayed? The usual view is expressed by Lenormant:<sup>6</sup> the system of signatures on Greek coins was necessary to make it possible to bring home to the individual responsible any fraudulent alteration

<sup>2</sup> But see the judicious remarks of George F. Hill, *A Handbook of Greek and Roman Coins*, (London, 1899), pp. 80f.

<sup>3</sup> In the 2nd century B.C. there are: Thasos, *HN* p. 266, Odessus, *HN* p. 276, Pessinus, *HN* p. 748.

<sup>4</sup> Brückner in W. Dörpfeld *Troja und Ilion*, pp. 577–579. If this had been coinage of the League, Alexandria, which was a member, would not have produced her own rival issues.

<sup>5</sup> François Lenormant, *La Monnaie dans l'Antiquité* (Paris, 1879), Vol. III, p. 62. In the case of Ilium this is likely to have been the archon, pp. 94f. Lenormant's suggestion that in the case of issues of a deity the authority is sacerdotal and not political (p. 127) will not fit this case.

<sup>6</sup> Lenormant, *op. cit.*, III, p. 38.



in the coinage of whose minting he was in charge. This view is supported by an inscription regulating the electrum struck in common by the cities of Mytilene and Phocaea and levying sentence of death against the official who falsified his issues.<sup>7</sup> The theory has been taken for granted in dealing with the best known bodies of moneyers' marks: those of the New Style silver of Athens and those of the royal coinages of Philip II, Alexander the Great and their followers. But there are objections that have been too easily overlooked. If, as Lenormant thinks,<sup>8</sup> the organization of the mint of Athens conforms altogether to the general spirit of the Athenian constitution and the precautions with which all magistrates who had the handling of funds were surrounded, it may be asked why the Old Style silver has no mark of the responsible officials. Surely the Athenian democracy of the fifth and fourth centuries was as likely to take precautions as the democracy of the second. And how could the unfortunate possessor of a false Alexander find out who was the guilty party unless he lived in the town where it had been struck? In most cases he could not even make out the mint without the help of an index. Finally, what kind of offense could be perpetrated against the bronze, which also sometimes bore the symbol or monogram of its moneyer?

Of what could the ancient moneyer of silver be guilty? He could issue plated coins instead of solid ones, he could adulterate the purity of the metal, he could use flans that were under weight or he could strike fewer pieces than he was supposed to. In all these cases he would make an illegal profit by retaining some of the bullion that was issued him to use. Most of the ancient falsifications are plated coins but, while this is the most profitable practice for a non-official forger, it is much the least available for an official, since it would be so very hard to keep it secret. Debasing the metal or using light flans also would be risky because it would involve accomplices. The simplest thing for an official would be not to strike as many coins as he was supposed to. But that obviously could never be detected by his name

<sup>7</sup> *BMC Troas*, p. lxv; the major part of the inscription is quoted in Hill, *op. cit.*, pp. 104 f. It seems not to have occurred to Lenormant that this is not very valuable corroboration since on the electrum in question the magistrates' names do *not* appear.

<sup>8</sup> Lenormant, *op. cit.*, pp. 51 f.

or monogram on the coins that he did strike. On the other hand, a certain and very easy way of controlling it would be by count at the time of issue, and indeed inspection at the time of issue is much the simplest way of taking care of the other possibilities. Let the moneyer have his accounts inspected at the end of his term of office: that manifestly does really conform to the general spirit of the Athenian constitution and would be the obviously appropriate procedure for fiscal ministers of the kings. It would be fantastic to omit so elementary a check and to rely on identification marks on the coins for punishing fraud if and when it was later detected, particularly since this would leave the official perfectly free to profit by his simplest means of peculation, the issue of too few coins. One method of control certainly does not exclude the other, and there is ample reason to believe that the marks on coins of the late Roman empire were indeed used to control the officials responsible for striking, but one important difference in conditions is that the Roman empire was striking base metal so that the degree of adulteration would be far easier to manipulate than it could be to add copper to a currency that was supposed to be pure silver. So far as the Greek series are concerned we may reject the conventional theory that names are used as a check on the issuing authorities.

If the moneyer's signature on a coin is not primarily a device for controlling him, then what is it? Surely we need not hesitate to accept the obvious explanation that it is a distinction. Even in the vast and complicated system of Alexander the minor participants may well have taken satisfaction in holding, for a time, a government position and in having the neighbors reminded of the fact. How much more would Xanthippus feel a satisfaction in perpetuating the memory of his eminence in the most eminent of towns! Our first three tetradrachms, therefore, bear the name of the eponymous magistrate, one of whose functions is the production of money for the city. We shall presently consider whether their contribution was not something more than what was demanded by their official duties. With no. 4 there appears a monogram as well as a name. That the two are not the same is proved by the fact that Dionysodorus and Apemantus each coin with two different monograms, no. 6 and no. 9 sharing one, no. 7 and no. 8 the other. They must then represent another person

and an inferior one since the name is partly concealed by its form. He is undoubtedly the subordinate into whose hands fall the actual duties of buying and transporting the silver, hiring the die-sinker and approving the dies and supervising the work of striking; that is, he is the moneyer proper. We cannot tell which of the two would have substituted Nike for the usual owl on no. 5 or introduced the caduceus on no. 12. In the latter case, since the innovation was repeated three times it would seem to have been a piece of official policy and may well have been a decision of the highest authority, perhaps as a compliment to Pergamum whose chief deity was Aesclepius to whom the caduceus belonged. These early issues are closely connected. In particular nos. 2-4 which share the same obverse die would seem to have succeeded one another as annual issues and the same is true of nos. 7-9. With no. 15, however, there appears to begin a group much more loosely bound, except for nos. 17 and 18 and now the symbol adds another person to the staff of producers, as proved by no. 21. On no. 19 the eponymous magistrate has the added distinction of recording his father's name. Nos. 17 and 18 have a second name and no monogram and as the name is in the genitive we may suppose that so would the others be if the monograms were expanded. This is confusing, for the name of the official with direct responsibility is normally in the nominative<sup>9</sup> which, we can see from no. 21, is the case of the name represented by the symbol. As the symbol was added later than the monogram, the arrangement would seem to have been: chief official and his chief assistant in the genitive, second assistant in the nominative. (Whether the second assistant was omitted on no. 17 by accident or design we cannot tell.) No. 20 is altogether exceptional for there we have apparently two chief magistrates, Philocles and Philon.<sup>10</sup> This may be the result of a constitutional change or it may be a matter of contributions to be discussed presently. Another remarkable feature of the coin is that the place of the symbol is taken by the name Hyllon written out in full, and as the monogram cannot possibly be that name there are here four different persons. The name in the nominative, as already remarked, ought to be the

<sup>9</sup> Lenormant, *op. cit.*, p. 71.

<sup>10</sup> *Ibid.*, p. 99 cites two examples of double chief magistrates, but they are of the Roman imperial period.

official directly responsible for minting but must here be a second assistant. The feature of the laurel around the helmet connects the last two tetradrachms. The style is so very much changed that one must assume a considerable gap between them and their predecessors.

Counting two drachms (PLATE V, 22-23), which should go with the later tetradrachms, we have twenty-two magistrates' names, presumably the issue of twenty-two years. As already remarked, the earlier ones may have come very close together; the later certainly did not. How shall we date the end of the series? The latest piece in the similar series at Alexandria bears the date 136 and since 133 marks the death of Attalus III and the inheritance of his territory by Rome, that is a reasonable date for putting an end to what had been inaugurated under Pergamene auspices. It is by no means impossible, however, that the last of these pieces are products of the early period of Roman control.

We have still a fundamental question to ask about the tetradrachms and drachms: what was their function in the monetary pattern of the district? When one considers this list it is obvious that the issue must have been small. Most of the items are known from a single specimen; in only one case are there as many as three specimens, preserved. To be sure, both Dionysodorus and Apemantus employed two subordinates, and the Greek coins preserved certainly form an extremely small fraction of those originally struck. Still, in comparison with the output of the large cities, this must have been a small issue. Everything points to the conclusion that its chief purpose was to satisfy civic pride. If need of coined silver had been the motive there would have been a large initial issue followed by another when the need arose again. But apparently the delight of displaying independence was a stronger attraction to the Ilians than sound finance. They needed the coins so little that they could allow them to be exported: five turn up as far from home as Babylon. This tendency of silver of Asia Minor to move south is so well known that it has sometimes been questioned whether it was used at all in the country of its origin.<sup>11</sup> In the case of Ilium we are so fortunate as to have evidence,

<sup>11</sup> The most important discussion of this phenomenon is that by M. I. Rostovtzeff, "Some Remarks on the Monetary and Commercial Policy of the Attalids," *Anatolian Studies presented to W. H. Buckler* (Manchester, 1939), pp. 277-298. Cf. L. Robert, *Hellenica* VII (Paris, 1949), p. 86 and note 2. The

lacking in other cases, of such use: the first example of no. 14, both specimens of no. 15, with two others whose whereabouts is unknown, come from a hoard found in Turkey about May, 1952. Unluckily no more details are available, but the circumstances are such as to make it certain that they did come from Anatolia. *Someone* in Asia Minor kept his money therefore instead of letting it go to be used in Seleucid territory, frequently with a Seleucid countermark.<sup>12</sup> But how did the majority get into Seleucid territory? The phrase "coined for export" has been used of them but without considering all that that phrase implies. In strict propriety it can be used only of such a numismatic phenomenon as the Maria Theresa thaler;<sup>13</sup> that is, a coin manufactured in modern times in a country where it has no validity, for use in Africa where it is still standard as the result of a long tradition. It is literally coined for export because unless it is exported it is useless. Obviously this has no relevance to the present case. The Maria Theresa thalers are a successful investment not only because they are produced in great quantity but because their face value is so much greater than their bullion value in the country where they are current. In the case of the tetradrachms of Ilium their face value and bullion value are theoretically equal, that is there is supposed to be four drachms worth of silver in them minus a small proportion designed to cover the cost of minting (seigniorage).<sup>14</sup> The only gain to be realized from exporting them, therefore, would be in sending them to a district where silver was scarcer and its purchasing power consequently greater. That, to be sure, was the situation of Syria, but the question at once arises why the silver should have been made up into coins if it was the value of the bullion that was of importance. The Seleucids

phrase "ces sont des monnaies frappées pour la circulation à l'étranger" needs some qualification.

<sup>12</sup> It would be most reckless to assume that all the varieties of tetradrachm are known. Four that were entirely new turned up in Babylon; three new varieties have become known in the last few years. It may be taken for granted that there were originally more, though it may be taken for granted that future evidence will add more items to the list without changing the conclusion that the individual issues were small. The happy discovery of some new hoard may add more impressive evidence of their use in their own country.

<sup>13</sup> J. Hans, *Zwei Jahrhunderte Maria-Theresien-Taler 1751-1951* (Klagenfurt, 1950).

<sup>14</sup> Cf. Lenormant, *op. cit.*, pp. 4-10.

of Syria were perfectly capable of striking their own coins and would presumably have preferred to use their own other things being equal. There must be other elements here beside those strictly economic.

The expression "coined for export" is with somewhat more justification used of the Old Style Athenian tetradrachms which circulated in great numbers among the barbarians to the north and east. This means, of course, that a large proportion of them was struck in the expectation that they would go abroad, and that their familiar type had a value in Arabia or Thrace presumably in excess of their bullion value in Athens. The difference cannot have been so great as in the case of the Maria Theresa thaler, but the cost of manufacture was kept down as far as possible by using invariable types and by getting the maximum number of coins from each pair of dies. To call them "coined for export" is not precisely accurate, however, since they were the standard currency in the country of their origin and there was no difference between a tetradrachm kept in Athens and one sent overseas. The most that can be said is that more were coined than would have been had there not been a large number sent abroad.

The Thraco-Macedonian coins of the fifth century have been called "struck for export" since they are found in hoards in Syria and Egypt and South Italy.<sup>15</sup> Here the basic condition is like that of Athens: a large supply of native silver available. In this case, however, the types are by no means an old formula mechanically repeated, and it is hard to believe that such magnificent specimens of art as the tetradrachms of Acanthus should have been struck with the purpose of having them exported and actually melted down which was the ultimate fate of some of them. It is probable that the surplus exported was a smaller proportion and was the result not of a commercial program, but of individual purchases from foreign traders, largely from the merchant ships of Asia Minor as one phase of the Ionian grain trade.<sup>16</sup>

<sup>15</sup> C. H. V. Sutherland, "Corn and Coin," *AJP*, LXIV (1943), p. 137.

<sup>16</sup> Sutherland, *op. cit.*, p. 144: "The semi-Greek silver of the north Aegean was not, however, traded directly; there is not evidence for a direct link between the two areas. It is much more probable that Ionian Greeks, who were themselves dependent upon external sources of silver, shipped their woollens and other made-up commodities to the Thraco-Macedonian districts, receiving in exchange Thraco-Macedonian silver coins which they then traded to Egypt in

There were other Asiatic towns beside Ilium and Alexandria that struck civic tetradrachms in the same period which showed the same tendency to move south,<sup>17</sup> as did also the posthumous Alexanders with spread flans. More remarkable still is the appearance of the royal silver of Pergamum to the south of the Taurus. Rostovtzeff found an explanation of these conditions in a definite policy of the Attalids, who had a large supply of silver, of exporting it to the Seleucids who were poor in metals.<sup>18</sup> "They looked for a good market for their silver. Masters of most of the silver mines in Asia Minor, they certainly intensified the production of these mines and were eager to place their products to advantage. It was probably not without their encouragement that alongside of large commercial cities, many small and insignificant cities of Aeolis and Lydia, of Troas, of Caria and Paphlagonia embarked on their venture in the field of silver minting." It is not a perfectly satisfactory explanation, however. "Why the Attalids had recourse to the good services of the cities is hard to say." Closer economic analysis will suggest modifications. The bullion owned by the Kings of Pergamum was a source of revenue, each tetradrachm being four drachms of income minus the cost of mining, transporting and striking (not all of which expense could be covered by the seigniorage). Some of the coins were doubtless used directly for purchases from the Seleucids. More would be absorbed in salaries, wages, military supplies, building and other royal obligations. The individuals to whom they passed could then themselves profitably make foreign

return for corn and any other things which they wanted." This clear statement shows in what sense "struck for export" must be understood. It would be more exact to say "struck for the purchase of foreign goods," but that also ignores the fact that they must have been useful in purchasing domestic goods as well. Cf. also Carl Roebuck, "The Grain Trade between Greece and Egypt," *Classical Philology*, XLV (1950), pp. 236-247.

<sup>17</sup> Civic tetradrachms of this type were coined by the following cities (from north to south): Cyzicus, Lampsacus, Abydus, Tenedos, Aegae, Myrina, Cyme, Smyrna, Colophon, Lebedus, Magnesia, Alabanda, Heraclea in Ionia, Myndus, Cos, Phaselis, Side. All except Aegae, Colophon, Magnesia and Alabanda (and, of course, Ilium) are ports. They would well repay study as a group. It is easy to assume that they are alike, but they certainly differ in the amount of output, and they seem to differ also in habit. E.g. Smyrna, one of the most productive of them did *not* send her coins into Seleucid territory so far as the recorded hoards show.

<sup>18</sup> Rostovtzeff, *op. cit.*, p. 295.

purchases, either directly or through the ports, the coins being worth more south of the Taurus than their bullion value in the north. But there would be no profit to the king from a civic tetradrachm going south—or in any other direction. The profit in that case must have come from the fact that he sold bullion to the cities. An active mint, such as Side, would be able to buy silver, strike it with her standard and simple types and still have a margin of profit in what it would buy. Her position, then, was somewhat like that of Athens: she struck more coins than she needed to use at home in the expectation that most of them would go abroad though some of them unquestionably circulated in town.

None of these analogies quite covers the case of Ilium. She had to buy silver, engrave her handsome dies and strike her coins with very little chance of resulting profit. Her die-sinking certainly cost more than that of Side and quite as certainly her citizens had no trade with Syria of any importance. If her coins went out of town they must have gone to neighboring cities, especially the port of Alexandria Troas. From there they would have merged with silver from all sources used in the coastwise trade and eventually have wandered as far as Babylon. But since only the first step can have affected Ilium and since a tetradrachm would have been worth no more in Alexandria than at home it follows that the only benefit to the citizen would have been the satisfaction of using money coined at home instead of equally valuable pieces—say Pergamene tetradrachms—coined elsewhere. Could the city treasury spend the cost of manufacture for so sentimental a return? It is not impossible. Two tetradrachms of Colophon are known—and only two—from this time:<sup>19</sup> they bear the legend ΚΟΛΟΦΩΝΙΩΝ with no sign of a magistrate and may therefore be presumed to be a gesture of patriotism made by the municipality from its own funds. But I believe that in the case of Ilium, it was Xanthippus and his successors who made the gesture possible and earned the notoriety they received by paying the cost of

<sup>19</sup> J. G. Milne, *Kolophon and its Coinage*, *Numismatic Notes and Monographs*, No. 96 (New York, 1941), p. 76, No. 164. Milne remarks (p. 80) that it "may have been made as a demonstration of the liberation of Kolophon from regal control and its claim to rank alongside the other cities which struck similar coins: but it was evidently short-lived, and had no economic justification."



making the coins on which their names appeared. Such contributions to the glory of a city are well attested for the period of the Roman empire;<sup>20</sup> the practice would be perfectly congenial to the relations between rich men and the state in Hellenistic times. The growing complications of the moneyers' marks may well be evidence of the fact that there was not a sufficient supply of men rich enough and public-spirited enough to pay the whole cost of manufacture, but we may safely dismiss the idea that the tetradrachms were issued as a means of making a profit for Ilium. It was certainly civic pride and not calculation that produced them.

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<sup>20</sup> Lenormant, *op. cit.*, pp. 132-145.

## THE LATE BRONZE OF ALEXANDRIA TROAS

(SEE PLATES VI–XI)

In 310 B.C. Antigonos, the general of Alexander the Great, combined a number of small settlements on the coast of the Troad to found a city which he named for himself. A few years later, after his defeat and death, Lysimachus, who came into control of that territory, re-founded it under the name of Alexandria and as Alexandria Troas it was a thriving community for centuries. In proper Greek fashion it struck its own coins and the activity of the mint varied with the fortunes of the city through Hellenistic times and into the period of the dominance of the Roman Republic in Asia Minor. There was nothing particularly striking about its performance to that point, but under the Empire its course was surprising.

At first it was unaccountably idle. The plans of Augustus which contemplated the combining of the local issues of small change with larger denominations struck at centers which should serve districts of considerable size<sup>1</sup> did not include Alexandria at all, though the neighboring city of Ilium was coining busily. This cannot have been the result of anything which had caused Alexandria to fall into disfavor, for we know from Strabo that it was already a Roman Colony and a place of importance.<sup>2</sup> Whatever the reason for this strange state of things, it persisted for a long while, for no coin was issued from the mint in imperial times until the reign of Antoninus Pius.<sup>3</sup> Two pieces, one in the American Numismatic Society the other in Paris, are all that I can find from that reign,<sup>4</sup> nor do there seem to be any authentic coins of Marcus Aurelius, though a few appear to belong to Commodus as Caesar.

<sup>1</sup> Michael Grant *The Main Aes Coinages of Augustus*.      <sup>2</sup> Strabo XIII, 47.

<sup>3</sup> Mionnet 106 and 107, both from Sestini, are certainly spurious; 108 attributed to Pius and 109 and 110 given to Marcus Aurelius appear to be well-known types of Caracalla.

<sup>4</sup> A possible addition is Mionnet *Supplément* V, No. 19, from J. Foy-Vaillant *Numismata Aerea in Coloniis Percussa*, Paris, 1688, Vol. I, p. 249: Nike l. with wreath and palm. Since Vaillant engraves the reverses only it is impossible to judge of the emperor concerned.

With the reign of Commodus, however, the long idleness is broken by a flood of bronzes as remarkable as the city's previous abstinence.<sup>5</sup> From that time until the reign of Gallienus almost all the emperors are represented, though in different volume to be sure, and at least from the time of Caracalla<sup>6</sup> to that of Valerian there is an accompanying output of pseudo-autonomous coins bearing the name of the town but not that of the emperor, which is without parallel for the time. The number is so great that there can be no question of rare festival issues put out to gratify local pride. They undoubtedly constituted a valuable privilege for the issuing community, which made a profit of the difference between their face and the cost of manufacture, and if Alexandria had not previously been favored financially by the imperial government, she was now recompensed.

These coins, the imperial as well as the civic, are preserved in large numbers and since there are innumerable minor varieties, the attempt to make a corpus of them would be difficult and tedious beyond the value of the result. But it is perhaps worth while to give a more complete idea than is now available of what must have been a conspicuous element in the coinage of western Asia Minor in the late second and third centuries. Having recently had opportunity to make notes of the holdings of a number of collections, I feel that it might be useful to combine these with the published sources to show the repertory of types available to a Greek city under the Roman Empire.<sup>7</sup> In this discussion I shall leave out of account the obverses, though I illustrate both sides wherever possible, and I shall not be concerned with minute

<sup>5</sup> They went as far afield as Imbros, Lemnos and Thasos, Antioch, Corinth and Athens. Louis Robert, *Études de Numismatique grecque*, 1951, p. 5, note 3; Mrs. Waage, *Antioch on the Orontes* IV, Part 2, p. 76, No. 802; Miss Edwards, *Corinth* VI, p. 69, No. 446; three coins of Caracalla and one of Volusian are in the card catalogue of the Athenian Agora excavations.

<sup>6</sup> The catalogues give the period as "Caracalla-Gallienus" but it seems probable that the Civic issues began under Commodus.

<sup>7</sup> The sources I use are: personal inspection of the collections at the American Numismatic Society, Yale, the British Museum, Oxford, Paris, the Hague, Winterthur, Munich, Gotha, Vienna, Istanbul; report on Athens by Miss Margaret Thompson; the excavation coins from Troy and those collected in that vicinity by Professors Blegen and Caskey; catalogues of the Royal Danish Collection, of the Hunterian Collection, of the McClean Collection and of the Weber Collection. To the authorities of these collections I am indebted for their generosity in allowing me to work with the coins and for the casts for illustration which give this work any usefulness it may possess.

variations of the reverse type. In particular I shall not record the forms of the reverse inscription. From the days of Augustus to those of Caracalla the title of the city was COLONIA AVGVSTA TROAS or TROADENSIVM (Magie, *Roman Rule in Asia Minor*, pp. 472, 1334f.) Under Caracalla it became COLONIA ALEXANDRIA AVGVSTA, after 212 since it is not found on coins of Geta, and the older form appears on some coins of Caracalla. Elagabalus and Severus Alexander seem to have used both titles indiscriminately. From Maximinus Thrax on, however, the earlier inscription is regular, ALEXANDRIA being a rare exception, though a perfectly authentic one. The distinction is not quite a safe one, therefore, for dividing the pseudo-autonomous coins into periods, though doubtless most of those without ALEXANDRIA were struck between 235 and 268. Both titles occur with a great variety of abbreviations which represent nothing more important than the individual engraver's preference or the exigencies of his design, and though they would doubtless need to be all recorded if anyone were so mad as to attempt to account for all the dies, they have no significance for our purpose, which is to consider the iconography with its mixture of local and imperial motifs, which supplies much of the interest to the numismatics of this period. I shall list the emperors by whom each type is used (including also the civic or pseudo-autonomous class) with a note of the number of specimens which I happen to know. This is, of course, the roughest kind of indication of frequency but it will, at least, give a better idea than the published catalogues alone.

The first group of types centers on Apollo Smintheus, the town's chief divinity.

#### TYPE I

Statue of Apollo r. in himation, a quiver over his shoulder, in his l. hand a bow, in his outstretched r. a patera.

Pius 1, Commodus 16, Crispina 3, Caracalla 8, Macrinus 2, Elagabalus 4, Alexander 8, Maximus 2, Gordian III 7, Decius 2, Etruscilla 4, Volusian 2, Valerian 1, Gallienus 9, Salonina 1, Civic 13. Total 83

We have ancient testimony as to the statue on which this type was modelled. Strabo, XIII, 47,<sup>8</sup> in enumerating the towns of the Troad,

<sup>8</sup> The quotations are from the translation of Walter Leaf in *Strabo on the Troad*, Cambridge, 1923.

speaks of "the modern Chrysa, founded on a rocky height above the sea; then Hamaxitos, lying immediately under Lekton." In XIII, 48 he says "In this Chrysa is also the temple of the Sminthian Apollo, and the symbol which preserves the etymology of the name, the mouse, lies under the foot of the cult-image. These are the works of Scopas of Paros. For this place too is claimed the history or myth about the mice. This is first recorded by Kallinos the elegiac poet, who has been followed by many others; it relates that the Teukroi, when they arrived from Crete, had an oracle bidding them make their home wherever the Earth-born should attack them. This was fulfilled at Hamaxitos; for here a great multitude of field-mice swarmed out and ate up all the leather in their arms and equipments. They accordingly fixed their home here and it was they who gave its name to Ida from the mountain in Crete. Herakleides of Pontos says that the mice which swarm round the temple are regarded as holy, and that this is why the cult-image is represented with its foot upon a mouse."<sup>9</sup>

Two other legends are recorded. Aelian, *Nat. Anim.* XII, 5 reports that the people of Hamaxitus worship a mouse from which Apollo Smintheus takes his name, "sminthos" being the Aeolian and Trojan word for mouse. (He also quotes its use in the lost *Sisyphos* of Aeschylus). The story is that a plague of mice was ruining the crops of the Aeolians and Trojans and they appealed to Delphi and were directed to sacrifice to Apollo Smintheus. The plague was averted and in consequence mice were kept in the temple at public expense and a mouse was set by the tripod of Apollo (presumably the carven figure of a mouse).

Secondly, Scholia A on Iliad I, 39 goes "Smintheus: epithet of Apollo; for Smintheus is a place in the Troad where there is a sanctuary of Apollo for the following reason. In Chryse, a city in Mysia, there was a certain Krinis, a priest of the local Apollo. Angered at him the god sent mice upon his fields which ruined the crops. But the god, wishing to be reconciled to him, appeared to Orodos his chief cowherd by whom he was hospitably received, and promised an abatement of the evils, and at once he destroyed the mice with his

<sup>9</sup> Cf. Eustathius on Iliad I, 39. "the tale is that in Chryse there is a sanctuary of Smintheus and a mouse lies at the foot of the statue, the work of Scopas of Paros."

archery. So having brought this relief he commanded him to tell Krinis of his appearance. When he did so Krinis consecrated a sanctuary to the god, calling him Smintheus since in the local dialect mice are called "sminthoi". This story is in Polemon" (author of an ancient guide-book who lived under Ptolemy Epiphanes, 204–180 B.C.)

The question of the nature and origin of the god we cannot pursue;<sup>10</sup> we are concerned only with his representation. The statement of Strabo that Scopas was the sculptor creates a difficulty, for the figure on the coins is very little like his style, yet types 2a and 3a (as well as the city's silver tetradrachms) prove by their inscriptions that this is the official form of the god. Either this is an archaistic work or there were two statues which Strabo has confused.<sup>11</sup>

The first appearance of Type 1 was on little bronzes of Hamaxitus struck before the synoecism of 310, and it was borrowed by Alexandria for her first civic issue<sup>12</sup> with the addition of a mouse at the foot of the god. Strabo says clearly that the mouse was under Apollos' foot but it is never depicted in that position and, indeed, except for these first coins of Alexandria the mouse never appears.<sup>13</sup> By imperial times the representation had become canonical but not invariable: the statue is sometimes shown on the ground, more usually on a basis that occasionally takes the form of a capital. Later types sometimes show a whole column.

#### TYPE 2

Similar statue of Apollo; in front of him, flaming tripod.

Commodus 8, Domna 3, Caracalla 20, Elagabalus 5, Paula 5, Alexander 7,  
Gordian III 1, Gallus 2, Valerian 1, Gallienus 1, Civic 8      Total 68

The first modification is the simple one of introducing a tripod above which the patera is held. The passage from Aelian mentions a tripod which was probably part of the original statuary group.

<sup>10</sup> Lewis R. Farnell believes him to be pre-Hellenic, *The Cults of the Greek States*, Oxford, 1907, Vol. IV, pp. 162–164, 256. J. DeWitte "Apollon Sminthien" *RN* 1858, pp. 1–51, has assembled an interesting and impressive body of material about the god and his mouse.

<sup>11</sup> Both alternatives have their supporters. Cf. Leon Lacroix, *Les Reproductions de Statues sur les Monnaies grecques*, Liege, 1949, pp. 82–85.

<sup>12</sup> *BMC Troas*. Pl. XI, 2 and III, 6.

<sup>13</sup> DeWitte, op. cit., pp. 23 f. note 2 is sure that there is a mouse in the hand of the god on the tetradrachm of the date ΣΛΓ, but whenever the object is perfectly clear on a tetradrachm it is a patera.

The same figure appears as an *obverse* type on fractional civic issues, accompanying an identifying inscription.

## TYPE 2a

Similar type. APOL ZMINTHE<sup>14</sup>

Civic 6

Total 6

## TYPE 3

Similar type; to l. cypress tree.

Commodus 6, Maximinus 1, Maximus 2.

Total 9

The tree is somewhat different from the tripod for since the statue was in a temple the tree had no immediate connection with the figure of Apollo. It represented the sacred grove which several authors report as having stood about the temple.<sup>15</sup>

Like Type 2 this was adapted to the obverse of a civic fractional issue.

## TYPE 3a

Similar type. APOL ZMINTH

Civic 1.

Total 1

## TYPE 4

Similar statue of Apollo sacrificing over a flaming altar; to r. tree.

Commodus 2.

Total 2

Here the tripod is converted to an altar.

## TYPE 5

Statue of Apollo Smintheus l. bow in r.; in front of him, flaming tripod around one leg of which serpent.

Caracalla 2, Elagabalus 1, Alexander 3.

Total 6

<sup>14</sup> Z for Σ is found on coins of Smyrna. DeWitte, op. cit., pp. 22 f.

<sup>15</sup> DeWitte, op. cit., pp. 10 f.

## TYPE 6

Similar statue l., in front tripod, to l. raven l. looking r., to r. tree.

Civic 2.

Total 2

Hitherto the types have been appropriate to Apollo Smintheus alone if we consider the tree as a mere indication of scenery without ritual significance. But the raven is an attribute of Apollo of Delphi, the god of prophecy, and had no original connection with the mouse god whose invariable attributes are the long robe, bow, quiver and patera. This contamination of types is an instance of a common kind of syncretism. Two local divinities, originally distinct, are recognized as different aspects of the same god. At first their local characteristics are preserved, but gradually the appearance of the god is universalized by giving to one form details appropriate to another. The addition of the raven here is not a studied device but simply testimony to the fact that Apollo and the raven were by this time so commonly connected that the bird is felt to be in place wherever the god may appear.<sup>16</sup> Since the type occurs only on a civic issue there is no sure way of dating it, but the size of the flan and the good style make it probable that it belongs to the time of Commodus. An example is published by Imhoof-Blumer, *Kleinasiatische Münzen*, p. 36, No. 5, Pl. I, 31. He illustrates only the reverse which is from the same die as the piece in the ANS.

## TYPE 7

Statue of Apollo Smintheus facing on capital, holding in l. bow, in r. patera over flaming altar to l. Quiver not showing.

Civic 4.

Total 4

## TYPE 8

Similar statue on basis, between which and tripod, raven l., looking r.

Commodus 3.

Total 3

The appearance here of the raven tends to confirm the dating of Type 6 to Commodus.

<sup>16</sup> A special connection between Delphi and Apollo Smintheus is mentioned by Aelian in the passage referred to, but that is hardly needed to explain the type.



## TYPE 9

Similar type without raven; a serpent wound around one of the legs of the tripod. *BMC*, p. 20, No. 92, Pl. V, 13.

Caracalla 2

Total 2

The serpent is appropriate to the chthonic deities and would identify the tripod as the Delphic symbol of prophecy, a further contamination of the conception of Apollo Smintheus.

## TYPE 10

Statue of Apollo Smintheus r. on basis; facing him, emperor in military garb holding spear in l. and patera in r. above flaming tripod. Between them, above, eagle flying r. with bull's head in its talons.

Commodus 3, Crispina 2, Caracalla 2, Alexander 3 (eagle flying l.). Total 10

This is a much more complicated type. Another local device is introduced, the eagle with the bull's head in its talons, which we shall meet again (Types 46–50). It has no relevance to Apollo Smintheus. On the other hand, the emperor who is sacrificing to the god is a familiar way of combining local and imperial themes. Of course, there is no necessity of supposing that the individual sovereigns performed the sacrifice, though it would not be at all surprising if any of them who happened to come to town should do so. But by delegate the imperial power may well have made regularly such a courteous gesture to civic pride. An interesting instance is the Dura fresco showing the commander of the 20th Palmyrene cohort offering sacrifice to the three military gods of Palmyra.<sup>17</sup> Hospitality to gods not her own was one of the most conspicuous features of Roman religious life.

## TYPE 11

On r. statue of Apollo Smintheus facing, on capital; in center, flaming tripod; on l. bearded figure r. in toga holding branch in r., l. pointing to tripod (dropping incense on it?).

Commodus 1, Volusian 1, Civic 2.

Total 4

<sup>17</sup> Cumont, *Fouilles de Doura-Europos*, Pls. XLIX–LI.

This seems to be a later version of the scene in Type 10 except that here the emperor is in civil dress and the ceremony is performed with a lustral branch (perfectly clear on the coin of Volusian, *Hunter Collection* Vol. II, Pl. XLIX, 11) instead of a patera. The dress of the bearded figure identifies him as a Roman so that, even if he is not the emperor, there is the same mixture of local and imperial ideas.

## TYPE 12

Statue of Apollo Smintheus r. on column; before him, emperor l. on galloping horse, raising r. in salutation.

Commodus 4, Caracalla 13, Elagabalus 2, Alexander 9, Maesa 1, Valerian 1, Civic 4. Total 34

## TYPE 13

Temple in perspective to r. on three steps, two columns at each side of front, blocks of walls and roof-tiles indicated, solar disk in pediment; within, Apollo Smintheus on basis r., sometimes tripod before him.

Commodus 4, Caracalla 6, Alexander 19, Maximinus 1, Maximus 1, Gallus 1. Total 32

## TYPE 14

Temple in perspective to l., peripteral, on three steps; within, Apollo Smintheus l.

Maximinus 3, Maximus 3. Total 6

## TYPE 15

Front of hexastyle temple on three steps, disk in pediment, within, Apollo Smintheus facing on basis, sacrificing over tripod to r.

Volusian 1, Civic 2. Total 3

These are surely all intended as representations of the same temple, but they differ in details and in one essential. In discussing the Temple of Artemis at Ephesos<sup>18</sup> Mrs. Trell gives some interesting conclusions as to what the die-sinkers will and will not do to adapt a

<sup>18</sup> Bluma L. Trell, *NNM*, 107, pp. 3-6.

building to a coin type. "As to the number of columns, the ancient engraver never showed more than actually existed. In many cases, however, he showed fewer than the actual number to make room for a cult image." So we might explain this as a hexastyle temple of which the maker of Type 15 has shown the whole number, divided, however, to give space for the statue. Type 13 shows only four of them, Type 14, two. But it seems impossible to reconcile Types 13 and 14 in one capital matter: the latter has four columns along the side, the former has none. Since the former style is repeated under Gallus (Copenhagen 182) we cannot even take refuge in the unlikely supposition that a colonnade was added by Maximinus. We must admit, I fear, that the die-sinkers of Troas were not as scrupulous as those of Ionia. The actual remains of the temple are described by Pullan (quoted in Leaf, *Strabo on the Troad*, pp. 241f.) "it was a fine example of the Ionic order, octastyle and pseudo-dipteral in plan." There were 14 columns at the sides!

The civic coins I have not seen. They are Mionnet II, 101 and *Supplément* V, 91.

#### TYPE 16

Tyche turreted standing l., in l. standard, on outstretched r. little figure of Apollo Smintheus r.

Commodus 1, Caracalla 1, Alexander 1, Volusian 1, Valerian 1, Civic 1.  
Total 6

Here the type is of purely local significance but now the city is represented chiefly by her Tyche, Apollo being reduced to a defining symbol.<sup>19</sup>

#### TYPE 17

Genius l. holding in l. cornucopiae, on outstretched r. little figure of Apollo Smintheus l.

Commodus 3, Caracalla 4, Elagabalus 2, Gallus 2, Valerian 1, Gallienus 1, Civic 8.  
Total 21

Here the Tyche which represents the city is replaced by a Genius which may mean no more but which is extremely common as a type

<sup>19</sup> A similar group from Metropolis in Ionia, with Tyche holding a cult-statue of Ares is published by Von Schlosser, *NZ*, 1891, p. 11.

on Roman imperial coins. Sometimes it is made particular, as Genius Exercitus, Genius Senatus and the like, but its commonest significance is Genius Populi Romani. In spite of the traditional Apollo, therefore, this is rather an imperial than a civic type, carrying one step further the change produced by the introduction of the emperor, for it was his function on the types rather to glorify Apollo than to dominate him.

#### TYPE 18

Male figure facing, nude to the waist, his legs crossed, l. hand on hip, leaning against column surmounted by a little figure.

Commodus 1, Caracalla 4, Civic 1.

Total 6.

This enigmatic type is included here because it seems that the little figure on the column must be Apollo Smintheus though I have seen no specimen clear enough to be certain. On the civic piece (Paris: Mionnet *Supplement* V, 93) there is a vase at the foot of the column. I have no idea who the nonchalant young man can be. His garb is Greek rather than Roman and he looks like an idle citizen. It seems impossible to explain the group until a better preserved specimen is found.

#### TYPE 19

In a cave to l. Apollo Smintheus lying on his back; above the cave the same figure erect; in center herdsman l. with pedom r. raised; to r. bull leaping r. looking l.

Crispina 4, Caracalla 2, Civic 4.

Total 10

This interesting scene was believed by Imhoof-Blumer<sup>20</sup> to refer to some forgotten legend about Apollo like the one which told of the miraculous preservation of the statue of Athena Ilias in the fire which destroyed her temple in 85 B.C. In that case the scene would show a herdsman astonished at the unexpected resurrection of Apollo who appears first buried and then erect upon the ruins. Leaf, however,<sup>21</sup> prefers the Scholia on Iliad I, 39, holding that it is the appearance of Apollo to Orodes which is pictured on the coin. "This enables us to

<sup>20</sup> *Griechische Münzen*, p. 100, *Kleinasiatische Münzen*, II, p. 36.

<sup>21</sup> *Strabo on the Troad*, pp. 243 f.

complete the legend; the figure above the cavern is of course Apollo himself appearing to Orodes, and the actual cult-statue of the god as he appeared was afterwards found on the actual spot of his epiphania." Lacroix<sup>22</sup> accepts this explanation.

#### TYPE 20

In the center a tripod, on each side of which beardless male figure nude to the waist, facing each other; the one to the r. holds out three arrows in his r., bow in his l., the other rests his r. on his seat. Between, upper part of bearded herdsman, facing, with pedom in l.

Gallus 4, Civic 1.

Total 5

There are two dies, both published by Imhoof-Blumer, *Griechische Münzen*, pp. 101f., Nos. 216f., Pl. VII, 25, 26. The second (of which a cast from his collection at Winterthur is here shown. Another is in the *Hunter Collection* II, p. 296, No. 50) varies somewhat: the herdsman looks r.; the l. hand of the figure to the r. is on his seat like the r. of the other figure; at the extreme r. is perhaps a bow (this seems to me very dubious); before the tripod is the forepart of a dog with his nose to the ground; and in the upper field r. is an object which the Hunter Catalogue declines to identify but which Imhoof-Blumer described as "ähnlich einem rechtshin fliegenden Eros." This would make no sense at all as part of the scene and I suggest instead a badly formed eagle flying r. with a bull's head in its talons. This too would have nothing to do with the scene if it is concerned with the legend illustrated in Type 19, but the intrusion of this civic theme would be paralleled by the similar eagle on Type 10. Imhoof-Blumer suggests that the object held by the figure on the right may be a thunderbolt. He agrees, however, that the figure seems to be Apollo, as the bow and tripod suggest. It is obviously not the form of Apollo Smintheus with which we have so far been concerned. Nevertheless, there is some reason to connect this type with the legend shown on Type 19. Wroth<sup>23</sup> believes the herdsman to be the same in both cases, and

<sup>22</sup> *Réproductions de Statues*, p. 80, note 9.

<sup>23</sup> *BMC Troas*, p. xviii. But he thinks it is the same herdsman who appears with the feeding horse, Types 43-45, whereas the tale in the Scholia on the Iliad speaks of a cowherd.

Lacroix identifies the picture as Apollo receiving hospitality from Orodes.<sup>24</sup> Presumably, then, the second seated figure must be the priest Krinis to whom the reconciled god is offering the symbolic arrows which are to slay the mice. The detail of the dog, real or imagined (Imhoof-Blumer thinks that on the first die<sup>25</sup> the dog is behind Apollo where I can see no trace of him) is inconsequential. In the story as we have it in the Scholia there is no meeting between Apollo and Krinis: the god is entertained by Orodes, the mice are destroyed, and then Orodes is commanded to tell Krinis about it. The identification of the scene, therefore, is imperfect, but should be accepted in default of any other. If it is right it shows Apollo Smintheus in the normal Greek guise and introduces the various representations of the god or references to him which may well have been conceived as applying to the local deity although the local form is abandoned. A more explicit instance of this is provided by the next Type.

## TYPE 21

Apollo l. nude, his l. knee slightly bent as also both his arms; in his outstretched r. patera; nothing can be seen in his lowered l. A]POLLO NSMI

Pius 1.

Total 1

Pius, whose only other piece is an orthodox figure of Apollo Smintheus, here presents us with one on which the god is named but no feature of his familiar appearance is left except the patera. To judge by the attitude of the figure this might be the statue by Scopas of which Strabo speaks, but it is hardly conceivable that so famous a work should have been copied once but never again. The stance is very much like that of Apollo on coins of Seleucus II, though he holds an arrow and leans on his bow or on a tripod (e.g., Newell, *Western Seleucid Mints*, Pls. XXII–XXV) and doubtless there were familiar Hellenistic works that looked like this, but why should it be a type at Alexandria? It is almost as though the die-sinker, instructed to cut an Apollo, made one that pleased him without realizing what *this*

<sup>24</sup> Op. cit., p. 80, note 10.

<sup>25</sup> Shared by Paris and the Newnham Davis Collection at Marischal College, Aberdeen, Sylloge I, 2, Pl. xv, 246.

Apollo had to look like and then, rather than sacrifice the die, put the god's name where the title of the city should properly have gone to identify him. This could hardly have been done if it had been impossible to conceive of Apollo Smintheus under an unfamiliar form.

## TYPE 22

Apollo nude, bending l., l. hand on hip, r. foot on basis, r. elbow on knee, r. hand holding laurel branch; before him raven l. looking r.

Commodus 11, Crispina 2, Domna 1, Caracalla 21, Geta 3, Elagabalus 3, Alexander 5, Maximinus 1, Maximus 2, Volusian 2, Valerian 1, Civic 4.  
Total 56

Furtwängler suggested that this was copied from the Scopas statue and he has been supported by eminent authority on grounds of style.<sup>26</sup> Wroth<sup>27</sup> and Lacroix object that this cannot be a local statue since the type occurs on coins of Commodus from Apollonia ad Rhyndacum and Cyzicus.<sup>28</sup> The objection is hardly conclusive since cities do borrow notable types from one another, but the absence of the mouse and the presence of the branch and raven do tell seriously against this being the original Apollo Smintheus. Is it not possible, however, that Scopas, commissioned to make a statue, did it in his own fashion and that it was kept in the temple although it never replaced the cult-image? Of course, if Strabo is right about the mouse being at the foot of Scopas' statue, this will not fit. At any rate, the recurrence of this type throughout the period from Commodus to Valerian (as against its rare appearance elsewhere) strongly suggests a local connection, and it seems more reasonable to assume two forms of Apollo Smintheus than to suppose the town's intimate relation with two different Apollos.

## TYPE 23

Similar figure to r., without raven.

Maximus (Copenhagen *Sylloge* Troas Pl. 5, 174) 1.

Total 1

This recalls the reversal of position of the temple under Maximus Type 14.

<sup>26</sup> Lacroix, op. cit., p. 85, note 2.

<sup>27</sup> *BMC Troas*, p. xvii.

<sup>28</sup> *BMC Mysia*, p. 12, No. 24; p. 51, No. 239.

## TYPE 24

Apollo, nude to the waist, facing, holding in r. branch, l. arm on lyre which rests on a little statue of Artemis.

Commodus 3.

Total 3

This type which has no apparent connection with Apollo Smintheus at all seems to have been an experiment of the die-sinkers under Commodus which was never repeated. I can find no parallel.

## TYPE 25

Apollo riding r. on winged griffin and playing lyre.

Gallus 5, Volusian 1, Valerian 1, Civic 1.

Total 8

This, as explained by William Greenwell,<sup>29</sup> is Apollo on his journey to the Hyperborean country where griffins guard the gold. Neither the Cyzicene stater nor the vase-paintings to which Greenwell refers are close enough to have served as a model for our type, which must be regarded as an invention of the time of Gallus.

Symbols of Apollo are regularly used as types on the fractional issues. They need no discussion beyond calling attention to the fact that none is particularly connected with the state cult.

## TYPE 26

Tripod.

Commodus 4, Septimius 1, Caracalla 7, Geta 3, Diadumenian 2, Elagabalus 1, Alexander 9, Maximus 1, Gordian III 1, Gallus 1, Volusian 1, Valerian 1, Gallienus 2, Civic 5.

Total 39

## TYPE 27

Tripod with laurel branches to l. and r.

Gallienus 1.

Total 1

## TYPE 28

Tripod; to l. raven l. looking r.

Commodus 2.

Total 2

<sup>29</sup> *The Electrum Coinage of Cyzicus*, London, 1887, pp. 56f.



## TYPE 29

Raven r. on altar; to r., branch.

Civic 2

Total 2

## TYPE 30

Tripod, on which raven r.

Civic 2. (Same coin as TYPE 29)

Total 2

## TYPE 31

Raven r. feeding from altar.

Civic 1.

Total 1

## TYPE 32

Laurel branch with fillet.

Civic 1 (Same coin as Type 31).

Total 1

## TYPE 33

Quiver with laurel branch.

Geta 1.

Total 1

## TYPE 34

Lyre.

Commodus 1.

Total 1

It will be convenient to include here the few types devoted to other deities whose connection with Alexandria Troas is not otherwise attested.

## TYPE 35

Heracles nude, looking r., leaning on club.

Commodus 4, Caracalla 3, Gallus 3, Volusian 2, Gallienus 6. Total 18

Heracles leaning on his club is a common type both imperial and provincial with differences in detail. Alexandria may well have had such a statue, but it is not necessary to assume it.

## TYPE 36

Heracles nude, lifting Antaeus nude to l.

Caracalla 6, Elagabalus 1.

Total 7

Caracalla may have chosen this one of the labors of Heracles as symbolic of his struggle with the Parthians, though I note the same type for Maximus at Nicaea.<sup>30</sup> There was certainly no sculptural prototype here.

## TYPE 37

Drunken Heracles r., l. arm on shoulder of Pan facing him; two satyrs support him from behind.

Commodus 1, Caracalla 6, Elagabalus 2, Alexander 6, Gallus 1, Valerian 9, Gallienus 2, Civic 2.

Total 29

This riotous scene, popular alike with ancient users and modern scholars, has been published by J. Sabatier,<sup>31</sup> W. Drexler<sup>32</sup> and Imhoof-Blumer.<sup>33</sup> The last-mentioned expressed some doubt as to whether the hero of the piece is Heracles or Silenus. Drexler suggests that this may be the copy of a famous painting. Nobody explains what it is all about.

## TYPE 38

Poseidon nude r., l. foot on dolphin r., with r. thrusting downward with trident, l. arm extended, palm down, supporting hippocamp r.

Maximinus 2.

Total 2

I have not found exactly this type elsewhere. Generally Poseidon's foot is on a rock or a prow and he holds a dolphin, sometimes on the back of his hand in the unlikely position here portrayed. Of course Poseidon is appropriate to any seaport and Alexandria may have had a statue of him, but it is odd that he appears only under Maximinus, who had no known connection with the sea.

<sup>30</sup> Waddington-Babelon-Reinach, *Recueil général des Monnaies grecques d'Asie Mineure*, Vol. I, Fasc. 3, Paris, 1910, p. 483, No. 670, Pl. LXXXIV, 12.

<sup>31</sup> *Revue belge de Numismatique*, 1865, Pl. XVII, 16.

<sup>32</sup> *ZfN*, XIV (1887) pp. 233f., XV (1887, *sic!*), pp. 84f.

<sup>33</sup> *Griechische Münzen*, pp. 100f.

## TYPE 39

Horse feeding r.

Commodus 18, Septimius 1, Caracalla 42, Geta 1, Elagabalus 9, Paula 5,  
 Severa 1, Alexander 65, Mamaea 13, Maesa 1, Maximinus 6, Maximus 12,  
 Decius 1, Etruscilla 1, Gallus 7, Volusian 11, Valerian 35, Gallienus 66,  
 Salonina 7, Civic 94. Total 396

Neandria was, like Hamaxitus, a little community engulfed by the creation of Antigonus' city. In the days of its autonomy it had issued both silver and bronze with a horse feeding to the right, and that type was borrowed by Alexandria as the second of the civic devices.<sup>34</sup> Eckhel<sup>35</sup> believed that the horse was to be connected with Apollo, since the horse is used as a sacrifice to the sun. But it was not Apollo Helios that was of importance here but Apollo Smintheus and we need hardly look for an explanation of the type beyond the suitability of the Trojan plain for the raising of horses.

## TYPE 40

Horse feeding r., to l. tree.

Alexander 2, Maximinus 3, Maximus 3, Valerian 4, Gallienus 9, Salonina 1,  
 Civic 16. Total 38

## TYPE 41

Horse feeding r., behind it tree.

Alexander 2, Maximus 2. Total 4

## TYPE 42

Horse feeding r., behind it vexillum.

Diadumenian 1. Total 1

While Types 40 and 41 do no more than suggest the landscape in which the animal feeds, this unique piece adds a symbol of the city in the form of the vexillum which invariably accompanies the head of Tyche. Like the others, this probably had the abbreviated title of the city upon it, but the coin is too much worn to make out any inscription.

<sup>34</sup> *BMC Troas*, pp. 73f., Nos. 1, 8-11; p. 9, Nos. 4-6.

<sup>35</sup> *Doctrina Numorum Veterum*, Vol. II, p. 480.

## TYPE 43

Horse feeding r.; behind it herdsman r. whose figure shows only from the waist up, clad in a chlamys and holding in r. pedom.

Gallus 7, Volusian 3, Valerian 7, Gallienus 8, Civic 1. Total 26

On the best preserved specimens of this and the next type the herdsman appears to be bearded and Wroth<sup>36</sup> supposed that he was the same as the herdsman Orodes of Types 19 and 20. But the animal of Type 19 is not a horse but a bull and bearded herdsman in charge of horses must have been common enough on the plain so that they do not require a legend to explain their presence on a coin. The naive avoidance of a problem of representation in depth by omitting the herdsman's lower half is the standard treatment wherever he appears.

## TYPE 44

Horse feeding r., behind it herdsman r., to l. tree.

Commodus 9, Caracalla 7, Alexander 2, Mamaea 1, Maximinus 1, Civic 5 Total 25

## TYPE 45

Horse feeding l., behind it herdsman l. with pedom in l.

Maximinus 2, Civic 1. Total 3

This reversal of position is like that of the temple under Maximinus in Type 14.

## TYPE 46

Eagle flying l. with bull's head l. in its talons.

Commodus 5, Caracalla 1, Philip 1, Gallienus 2. Total 9

Eckhel<sup>37</sup> recognized that this must refer to a foundation legend like that told of Antioch on the Orontes in the *Chronologia* of Malalas and the speech in praise of Antioch by Libanius. The story is that Seleucus, contemplating the founding of a city in that region, was performing sacrifice when an eagle carried off the head of the victim to Mount Silpius where it was divinely appointed that the new town

<sup>36</sup> *BMC Troas*, p. xviii.

<sup>37</sup> *op. cit.*, Vol. II, p. 482.

should rise. Coins of Antioch refer to this event;<sup>38</sup> it is odd that they show not the head but the leg and thigh of the victim, upon which the eagle stands instead of flying away with it. Perhaps it was felt that the disparity in scale would be less obtrusive than here where the bull's head is hardly larger than the eagle's. We have no other knowledge of the story connected with Alexandria and it would be interesting to know what form it took. Antigonus was the only one to whom the question of a site can have presented itself (unless there was a tale of a mythical foundation by Alexander) and Antigonus had been thoroughly displaced by Lysimachus. Perhaps by Roman imperial times the old general was so far restored to favor that legends could be told about him. (Cf. Types 10 and 20 above.)

## TYPE 47

Eagle flying r. with bull's head r. in its talons.

Commodus 17, Septimius 1, Caracalla 34, Elagabalus 3, Alexander 4,  
Maximinus 1, Maximus 5, Gallus 3, Valerian 9, Gallienus 21, Civic 50.  
Total 148

## TYPE 48

Spread eagle, head l. on bull's head r.

Caracalla 1, Maximinus 1, Volusian 2, Valerian 13, Gallienus 9, Civic 17.  
Total 43

## TYPE 49

Spread eagle, head r. on bull's head r.

Gallus 3, Valerian 5, Gallienus 3, Civic 6. Total 17

## TYPE 50

Eagle r. looking l., wreath in beak, on bull's head r.

Maximinus 1. Total 1

Another case of the variant of a common type under Maximinus.

<sup>38</sup> *BMC Galatia*, p. lx, Pl. XXIII. 1, 5, 7.

## TYPE 51

Spread eagle head r.

Geta 1.

Total 1

There is no bull's head here and perhaps no reference to the legend is intended. But it may be that the die-sinker of this fractional type realized that it was better to be simple than explicit. It is also possible that the coin belongs to another town.

## TYPE 52

Head on Tyche l. with turreted headdress; to r. vexillum.

Gallienus 12.

Total 12

This and the next are the last issues of Gallienus in his sole reign. The debasement of the style shows that the resources of the mint are practically exhausted. No more coins were issued from Alexandria after these.

## TYPE 53

Head of Tyche r. with turreted headdress; to l. vexillum.

Gallienus 21.

Total 21

## TYPE 53a

The head of Tyche r. with a vexillum is the standard obverse type of all civic issues, except for fractional pieces, throughout the period. It calls for no discussion.

## TYPE 54

The Curia of Alexandria (?). Eight or nine men seated in a semi-circle wearing togas, the two outer ones in curule chairs, the two central ones holding short staffs. Beneath them two steps (?), the upper one inscribed ALEXAND, the lower one with uncertain decoration (apparently not an inscription). Beneath, TROADA; above (on the BM piece) AVG.

Gallus 6.

Total 6

There are two dies: that of *BMC Troas* Pl. VI, 7, showing nine men, and that at Paris, here illustrated, showing eight. Evidently the

number was not of prime importance. Wroth makes the suggestion that this may be the Curia of the town. Certainly it is an official gathering, and the likeliest explanation is that it is indeed the local Senate in session in the Senate house. It is hard to tell whether the two horizontal bands are intended for parts of the exterior or interior of the building. The decoration of the lower one in particular suggests an architectural member rather than a mere label.

So far the types have dealt chiefly or exclusively with local themes, but Alexandria was not only a Greek polis but also a Roman Colonia and an important group of types is of entirely Roman significance.

#### TYPE 55

Wolf l. suckling Romulus and Remus.

Caracalla 16, Geta 1, Elagabalus 2, Alexander 2, Civic 1      Total 22

#### TYPE 56

Wolf r. suckling Romulus and Remus.

Commodus 10, Septimius 1, Domna 1, Caracalla 38, Elagabalus 6, Paula 8, Alexander 27, Maximinus 4, Maximus 2, Philip 2, Philip Jr. 2, Otacilia 1, Gallus 3, Volusian 5, Valerian 28, Gallienus 21, Salonina 1, Civic 52  
Total 212

#### TYPE 57

Marsyas on pedestal l. raising r. holding wine-skin over his shoulder with l.

Commodus 10, Caracalla 1, Geta 4, Gallus 10, Civic 2.      Total 27

The type has an interesting history. At some time during the later Republic a Greek statue of Silenus was brought to Rome and set up in the Forum near the tribunal of the Urban Praetor. It came to be known as "Marsyas" and—perhaps from its propinquity to the seat of justice—to be regarded as the symbol of civil liberty. During the Empire this idea spread to the Colonies so that the statue of Marsyas in the market place became at once a reminder of the Forum and an assertion of the privileged condition of the town. In spite of its Greek origin, therefore, it was transformed into a purely Roman symbol and appears at Alexandria by virtue of her position as a Roman Colony.<sup>39</sup>

<sup>39</sup> H. Jordan, *Marsyas auf dem Forum in Rom*, Berlin, 1883.

## TYPE 58

Marsyas on pedestal r. raising r. holding wine-skin over his shoulder with l.

Commodus 4, Caracalla 6, Elagabalus 3, Alexander 3, Maximus 1, Gallus 1, Volusian 3, Valerian 4, Gallienus 13, Civic 11. Total 49

## TYPE 59

Janus standing bearded draped leaning with r. on scepter.

Commodus 1. Total 1

Janus is certainly Roman but what his propriety to Alexandria is we cannot tell.

The last group of types is imperial rather than civic.

## TYPE 60

Emperor 1. in military garb sacrificing over lighted altar; behind him Nike 1. holding palm in l. and placing wreath on his head with r.

Caracalla 3. Total 3

The motif is as old as Seleucus Nicator<sup>40</sup> and persisted as late as Honorius.<sup>41</sup> It might celebrate a real victory, as in the first case, or an imaginary one, as in the second. Caracalla's coin belongs to the second class.

## TYPE 61

Nike facing on globe holding shield above her head.

Maximinus 1, Volusian 1, Valerian 1. Total 3

This is evidently to be associated with the two following as referring to some victory celebration of Maximinus.

## TYPE 62

Triumphal arch with one big and two little spans. In the middle Nike on globe holding shield above her head. To l. and r. trophies. In field 1. two legionary eagles.

Maximus 1. Total 1

<sup>40</sup> Babelon, *Rois de Syrie*, Paris, 1890, p. 9, No. 53.

<sup>41</sup> Cohen VIII, p. 186, No. 56.



Published by Imhoof-Blumer, *Kleinasiatische Münzen*, p. 507, No. 2, Pl. XIX, 13. The Nike in the center is evidently the same as the one which is the whole Type 61.

### TYPE 63

Over a bridge or triumphal arch or viaduct a wagon is pulled r. by two oxen. In it stands a man r. with vexillum bearing the inscription COL. There seems to be an open door before the animals. Above them four legionary eagles with a single horizontal shaft. Under the arch a legionary eagle.

Maximinus 1.

Total 1

As this is certainly no imperial triumph we must suppose a local celebration in honor of some victory (military, as testified by the legionary eagles). As Maximinus' campaigning was done on the Rhine and Danube it is surprising to have this evidence of his success in a town so remote.

We have dealt with a total of 1559 coins (omitting the obverse types 2a, 3a, and 53a).<sup>42</sup> Since this is divided into so many small groups it is obvious that the numbers are not large enough to be dealt with statistically with any confidence. It is a probability amounting to a certainty that there are gaps in our list. For example, the list of types issued under Maximinus and his son Maximus is essentially the same, which is what we should expect, but we have seven types for the father and not for the son, six for the son and not for the father. Certainly a wider search would produce some of the missing varieties, if not all. On the other hand, the tendency of collections to acquire interesting rareties causes distortion. We are reduced, therefore, to a few generalizations, but those are not altogether without interest. A resumé by rulers will make some things clearer.

	<i>No. of types</i>	<i>No. of specimens</i>
Pius 138-161	2	2
Commodus 180-193	27	152
Crispina	4	11
Septimius Severus 193-211	3	3
Julia Domna	3	5

<sup>42</sup> The total by types is 1562. This is because of the Civic coins both of whose types have been listed.

	<i>No. of types</i>	<i>No. of specimens</i>
Caracalla 211-217	26	256
Geta	7	14
Macrinus 217-218	1	2
Diadumenianus	2	3
Elagabalus 218-222	14	44
Paula	3	18
Aquilia Severa	1	1
Severus Alexander 222-235	18	177
Mamaea	2	14
Maesa	2	2
Maximinus 235-238	15	29
Maximus	14	38
Gordian III 238-244	3	9
Philip 244-249	2	3
Philip Jr.	1	2
Otacilia	1	1
Decius 249-251	2	3
Etruscilla	2	5
Gallus 251-253	16	60
Volusian	14	36
Valerian 253-260	18	123
Gallienus 253-268	18	206
Salonina	4	10
Civic	32	327

Commodus began with a large repertory of which most items were continued by one or other of his successors (Apollo facing with the lyre, Type 24, Janus, Type 59, and the lyre alone for fractional coins, Type 34 are the only ones which did not take root at all—the fractional type of tripod with raven, Type 28, hardly counts). From the first the types involving Apollo Smintheus were dominant (Types 1 to 19, 59 specimens, of which 16 show the statue without adjunct and only 7 include the emperor); next most popular was the equally traditional feeding horse (Types 39-44, 27 specimens); third the eagle with a bull's head which had not appeared on the autonomous coinage but was concerned with the founding of the city. It is noticeable that there are 13 specimens with Apollo l. holding a laurel branch, Type 22; whether this is Scopas' statue or not it would seem to have a close connection with the town. Of Marsyas there are 14 specimens, Types 57, 58; of the wolf and twins 10, Type 56. This sets the general pattern. The citizens are to be reminded of the traditions of Alexandria itself, first as a city with a long history as an independent

town and, to a lesser degree, as a Roman Colony. There is nothing that could be called imperial propaganda.

The reign of Septimius Severus, largely occupied with civil war, produces few coins, and those of the commonest types, but with Caracalla production on a large scale is begun again.<sup>43</sup> The selection of scenes is much the same as under Commodus, but with some difference in emphasis: of the 60 specimens involving Apollo Smintheus. Types 1-18, 17 include the emperor; the wolf and twins now has 54. Types 55, 56, while the horse, Types 39-44 has sunk to third place with 49, and the eagle, Types 46-48, to fourth with 37. There are only 7 of Marsyas, Types 57, 58. It looks as though the Roman element was being given somewhat greater prominence at the expense of the Greek, and this impression is supported by the introduction of the emperor crowned by Nike, Type 60, the first frankly imperial type, and perhaps also by Heracles and Antaeus, Type 36.

The 63 coins of Elagabalus and his family are too few for analysis, though it might perhaps be remarked that Apollo Smintheus and the horse are now equal, with 18 apiece.

There is an increase again under Alexander—193 coins, including Mamaea and Maesa. Here the notable thing is that the horse is very much in the lead with 91 specimens as against 42 for Apollo Smintheus (12 with the emperor) and 29 for the wolf and twins.

The issues of Maximinus and his son are interesting out of proportion to their small number. In the first place, between them they produced 21 types, a remarkable performance for their three years' reign. There are 29 specimens of the horse against 13 of Apollo Smintheus (none with the emperor), 8 of the eagle, 6 of the wolf and twins, and only one of Marsyas. But there is a definite attempt at invention. The Nike, the triumphal arch and the ox-cart, are Alexandria's only imperial themes except for the attempt of Caracalla, Poseidon appears here alone, and there are four cases of the modification of a well-known pattern: the temple is shown to l. as well as to r., Type 14. Apollo with the branch r. instead of l., Type 23, the horse l. instead of r., Type 45 (there is one civic coin of this variety), and on Type 50 the eagle appears in an unfamiliar position r., looking l. These inno-

<sup>43</sup> Some of Caracalla's coins (and probably all of Geta's) must have been struck under Septimius, but it is impossible to say exactly how many.

vations are not very impressive artistically but in combination they do suggest that there was an intention of making the coinage conspicuous by its difference from that of the murdered Alexander.

The lull from Gordian III to Decius produces nothing new, but with the advent of Gallus and Volusian the mint has a new lease of life. Their two years produced 30 types, among them the interesting novelties of Apollo on the griffin and the Curia of Alexandria which, whatever they mean, have a local and not an imperial significance. On the other hand, Maximinus' Nike reappears for Volusian, an imperial type with no apparent justification except doubtless the emperor's ardent desire to seem victorious. Apollo Smintheus never regains his position of primacy; he now has 10 specimens against 28 of the horse, 14 of Marsyas, 8 each of the eagle and the wolf and twins.

The longer joint reign of Valerian and Gallienus has 40 types and the largest number of specimens of all: 306 including Salonina and excluding the 33 of Tyche head, Types 53 and 53a which certainly belong to 260–268 when Gallienus reigned alone. The combined reign offered nothing new (though one coin of Valerian continues Gallus' Apollo on a griffin and another the Nike which Gallus had borrowed from Maximinus) and the preponderance of the horse is now great: 138 specimens to 62 of the eagle, 50 of the wolf, 17 each of Apollo Smintheus and Marsyas. Gallienus' Tyche heads are the last; after them the mint is closed.

As for the civic coins it is impossible to prove when they began. They share Type 18 with Commodus and Caracalla, Type 19 with Crispina and Caracalla. The Civic specimens might have been issued under either reign. It seems more likely that Commodus in arranging for the production of the mint in quantity should have made this concession to municipal interest than that Caracalla should have allowed the privilege at a later time, and a few of the specimens seem to me appropriate to Commodus, but this is no more than a guess. Whether they were issued in every reign it is impossible to say. Certainly Type 45 which belongs to Maximinus alone must have been struck under him, and a number of others, Types 11, 15, 20, 25, 43, 49 are associated with the last two reigns. Sometimes the fabric makes it obvious whether the coin is early or late and there seem to be more

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of the late than of the early, but beyond that we cannot go. The types on the civic coins, therefore, are to be taken generally as a cross section of the output of the period. The order of frequency is much like that of the last reigns, which supports the impression that most of them are late: 117 of the horse, 73 of the eagle, 53 of the wolf, 44 of Apollo Smintheus (6 with the emperor), 13 of Marsyas. Doubtless the third century die-sinkers found the horse alone the easiest to cut, which is why it is by all odds the favorite type in the whole body of coins with a total of 396 specimens, followed by the wolf r. with twins with 212 and the eagle flying r. with 148. No other type furnishes as much as 100, though Apollo Smintheus alone has 83. There is no need to emphasize the great preponderance of coins with purely local devices.

Much has been written of the great use made of coins for purposes of propaganda by the government of the Roman Empire. With this in mind it is interesting to observe how very little the coins of this Roman Colony were used for any such purpose. Study of other Greek mints might show whether the case of Alexandria Troas is typical or exceptional and whether the administration of all the emperors pursued the same policy or whether here and there attempts might appear of an effort to influence public opinion such as seems to have been true of Maximinus Thrax in this city.

ALFRED R. BELLINGER

## KEY TO PLATES

### PLATE VI

1. Pius, ANS
2. Caracalla, ANS
3. Maximinus, BM
4. Commodus, BM
5. Alexander, Paris
6. Civic, ANS
7. Civic, Vienna
8. Commodus, Paris
10. Caracalla, Paris
11. Civic, BM

### PLATE VII

12. Julia Maesa, Paris
13. Commodus, Vienna
14. Maximinus, Vienna
15. Volusian, BM
16. Valerian, Paris
17. Commodus, Oxford
18. Caracalla, Oxford
19. Crispina, Vienna
20. Gallus, Paris  
Winterthur, cast,  
*rev.*

### PLATE VIII

21. Pius, Paris
22. Commodus, Hague
23. Maximus, Copenhagen
24. Commodus, Blegen
25. Valerian, Paris
26. Alexander, Paris
27. Gallienus, Gotha
28. Commodus, Paris
29. 30. Civic, BM
31. 32. Civic, BM
33. Geta, BM

### PLATE IX

34. Commodus, Copenhagen
35. Gallienus, Troy
36. Caracalla, Paris
37. Alexander, BM
38. Maximinus, Paris
39. Decius, Oxford
40. Valerian, ANS
41. Alexander, Glasgow
42. Diadumenian, Oxford
43. Volusian, ANS

### PLATE X

44. Commodus, BM
45. Maximinus, BM
46. Commodus, BM
47. Alexander, Oxford
48. Civic, ANS
49. Valerian, BM
50. Maximinus, Vienna
51. Geta, Paris
52. Gallienus, BM
53. Gallienus, BM

### PLATE XI

54. Gallus, Paris
55. Caracalla, Oxford
56. Philip, Istanbul
57. Commodus, ANS
58. Alexander, ANS
59. Commodus,  
Glasgow, *rev.*
60. Caracalla, Paris
61. Volusian, Winterthur, cast, *rev.*
62. Maximus
63. Maximinus



## A TETROBOL OF HISTIAEA

(SEE PLATE XII)

In an admirably reasoned presentation in the second issue of *Numismatic Notes and Monographs* (1921) Mr. Newell published a recently acquired octobol of Histiaea which he dated 340–338 B.C. To these years and as a part of the same minting, he assigned tetrobols and obols of a closely similar and equally fine style and proposed dating the output in these three denominations to the time Histiaea had been freed from Macedonain domination. He showed that everything pointed to the issue having been a brief one—homogeneity of style, the appropriateness of the type (the first use of such a figure seated on the stern of a galley) and a change to Attic weight from the previously used standard. Perhaps the most important of his reasons was the stylis toward which the seated nymph (Histiaea) is gazing, on which he was able to read ΑΘΑ(ΝΑ)<sup>1</sup>—these letters were illegible on the Paris example, which was the only other piece then known. An extended discussion of the significance of the stylis has been summarized and crystallized by the distinguished Greek numismatist, Svoronos<sup>2</sup>, and Mr. Newell pointed out that this newly found octobol confirmed the opinion Svoronos had expressed that these issues of Histiaea bore inscriptions. In support, Svoronos had cited a Greek vase reportedly found at Capua, which also showed the stern of a ship, with a stylis inscribed ΙΕΥΣ ΣΩΤΗΡ, and since a reproduction of this is now available, it is included on PLATE XII.

Mr. Newell's monograph, long out of print, is not so well known as his more extended publications and the rarity of the tetrobols as well as the octobols accounts for its not being frequently cited. In examining a small lot of coins said to have come from the Peloponnesus a few years ago, two of these tetrobols were acquired, and a careful cleaning of one of them, the reverse of which had been cupped in the

<sup>1</sup> This reading was questioned by Mr. Hill (*NC* 1921, p. 352).

<sup>2</sup> *JIAN*, v. xvi (1914), 81 ff.



striking so that it was unusually well preserved, revealed that there were letters on its stylis too, and that they read NIK(H).

Quoting Mr. Newell, "Now it is evident from the arguments and proofs brought together by M. Svoronos that the stylis was to the single ship or the entire squadron what the standard was to an army. It was, namely, the oriflamme, the palladium, the symbol of the divinity, presiding over the destinies of its protégés and leading them to certain victory." And on this coin we now have the name of Nike added to the others previously known—Nike, the giver of victory, whose temple on the Athenian acropolis and whose golden figure in the outstretched hand of the Athena Parthenos testified to the high honor in which she was held by the ally of Histiaea. The close relationship between the two cities had culminated in 411, then Histiaea had remained loyal to Athens when all the other Euboean cities had revolted. And it was the Athenian fleet which had severed the line of communications of the Macedonians in possession of Histiaea in 341–340. Mr. Newell's suggestion that this reverse type refers to this operation is now supported by the name of NIKH on the stylis.

In his exhaustive study of the use or purpose of the stylis Svoronos made an examination of such coins as were available to him, and these must have been tetrobols. For he writes "*j'ai constaté des traces de lettres microscopiques; sur une example meme du musée d'Athenes je crois distinguer les trois syllabes d'un mot.*" I am unable to understand how this could be possible. Perhaps M. Svoronos believed the word ΣΩΤΗΡ might have been present. But we now have on the stylis the names of three closely connected divinities; Zeus, from whose brow Athena was born, and Nike, whose association with Athena was so impressively commemorated at Athens, and the last of these honored on this coin in a way which must refer to the victory of the joint forces of Athens and Histiaea.

The weight of this tetrobol is 2.71; the reverse die is slightly to the left of the perpendicular, and other tetrobols of fine style have loose die-relations.

SYDNEY P. NOE

## NOTES ON IBERIAN DENARII FROM THE CORDOVA HOARD

(SEE PLATES XIII–XVIII)

Few hoards containing Iberian denarii have so far been published in adequate detail, though recently there have been extremely useful publications of the Palenzuela (*Archivo Español de arqueología*, 1947, pp. 61 ff.) and Borja hoards (*Actes of the Paris 1953 congress*, publ. 1957, pp. 433 ff.). As the establishment of more secure chronology for these coinages must depend at least in part on the evidence of hoards—though also of course on the equally important evidence of site-finds such as those of Numantia, Azaila and Cáceres—it seems worth recording as fully as possible the Iberian section of the Cordova hoard which is in the British Museum. A summary account was given by Mattingly in *NC*, 1925, pp. 395 f.,<sup>1</sup> together with a full list of the Roman republican denarii, 235 in number, which formed the larger part of the find; the jewellery from the hoard was separately published by W. L. Hildburgh in *Archaeologia* LXXII, pp. 161 ff.

With regard to the Roman coins in the hoard there is nothing material to add: only a small selection of them was acquired by the B.M. so that no thorough assessment of wear relative to the Iberian pieces is now possible. A few of the pieces acquired are illustrated on PLATE XVIII, a–d, representing some of the earliest and latest. It may be said that the most worn of the Iberian pieces (no. 1) is if anything more worn than the earliest of the Roman pieces we have from the hoard—though scarcely more so than the Roman coin associated with the silver torc illustrated by Hildburgh *loc. cit.* p. 168, fig. 3. It is possible too that if there had been other and more worn Roman pieces they would not in any case have been retained for the B.M. The bulk of Roman pieces from the hoard which are now in the B.M. are in fact quite well preserved, but of course they mostly date from the latter half of the second century B.C., the latest being c. 105.

<sup>1</sup> The total of 82½ for the Iberian pieces there given seems to be incorrect: I can find no evidence that there were more than 81.

The degree of wear of the Iberian denarii as compared to the Roman is in any case not so vital as the Iberian cannot *ex hypothesi* be earlier than the earliest class of the Roman. An indication of the possible time-lag between the start of the Roman denarius issue and that of the Iberian denarius is given by the evidence of the hoards from Tivisa, Las Ansies and Drieves.<sup>2</sup> These hoards contain Roman denarii of the earliest groups down to c. 155 B.C. (Sydenham's dating): but in none of them do Iberian denarii appear. The Iberian coins which do come in these hoards are Iberian imitations of Emporitan drachms. It is particularly noteworthy that such imitation drachms in the name of Ilerda are included in the Tivisa hoard,<sup>3</sup> and that these pieces were quite fresh—certainly not just a survival from an earlier epoch. In combination with the fact that the Ilerda denarii are shown by the Cordova hoard to be among the oldest, probably absolutely the oldest, of the Iberian denarius series, it may reasonably be deduced that the Iberian denarii were not in being at the time when the Tivisa and Las Ansies hoards were buried.<sup>4</sup>

Thus on the Mattingly-Robinson dating of the Roman denarius (187 B.C. —), followed by Sydenham, it seems that the Iberian denarius had not started until c. 155 B.C. And even if we follow the somewhat earlier date for the Roman denarius recently proposed by R. Thomsen, c. 210/209 B.C.,<sup>5</sup> we shall still only be able to put the Iberian denarii back to about 175 B.C. at earliest. So on neither of the datings for the Roman denarius which are currently held to be most probable can we hope to date the Iberian denarii early enough for them to be

<sup>2</sup> Tivisa, Noe 1113: illus. Gomez-Moreno *Notas* pl. II. Las Ansies, Noe 602: Zobel in *Mem. Num. Esp.* IV, pp. 138f., pp. 217f. Drieves, C. Millan in San Valerio Aparisi, *El Tesoro preimperial de Plata de Drieves* (Madrid 1945).

<sup>3</sup> Gomez-Moreno *Notas* pl. II.

<sup>4</sup> C. Millan's inference, op. cit. p. 39, that the Drieves hoard was buried as late as the Sertorian war is untenable; and the deduction that the absence of Iberian denarii from the hoard shows them to have been in "plena circulacion" at the time of the burial is unsound.

It may be noted incidentally that both the Las Ansies and Drieves hoards contained a specimen of the Roman denarius Sydenham 519 which he dates 119 B.C. As a date so late is out of the question for either of these hoards, it is clear that this variety must be considerably earlier, viz. before 150 B.C.

<sup>5</sup> Thomsen in *Actes* of the Paris congress of 1953, publ. 1957, pp. 193 ff. A similar view, but giving a starting date of 217 B.C., had been advanced by J. G. Milne in *JRS* 1946, pp. 92 ff.

considered the equivalent of the 'argentum oscense' mentioned by Livy for 195 B.C. Amorós has recently (in *NumHisp* no. 11, 1957, pp. 51ff.) restated the case against this identification, and with his case I fully agree. Indeed the only scheme on which the Iberian denarii can be made early enough to be identified with Livy's 'argentum oscense,' an identification which could then be invoked in support of the 'traditional' date for the Roman issue (269 B.C.), is first to assume that the Roman denarius is of that date. Such an argument would in effect be circular, and thus the Iberian denarii cannot seriously affect the problem of Roman chronology as such. We need only add that on the evidence of the Cordova hoard—the earliest silver hoard in which Iberian and Roman denarii appear together—it seems impossible to imagine that the Iberian pieces had been in circulation for a century or more, as would be required if the 'argentum oscense' equation were valid.

ILERDA (no. 1). Denarii of this mint are not common in collections but numerous different dies are represented by extant specimens: Yriarte gives a good conspectus on pl. I of *NumHisp* no. 3—all his specimens are from different dies and many others are known. The only other occurrence in a hoard (apart from a single piece in the Salvacañete hoard of c. 95 B.C., *AEA* 1936 pp. 155ff.) is in the hoard from Hostalrich (*Ampurias* XIII, p. 237, Hallazgos monetarios no. 444) where they were associated with denarii of Sesars: the latter should be comparatively early, like the Ilerda pieces, on account of the fact that the particular type of bronze coin which is equivalent in date to the Sesars silver is represented at Numantia.<sup>6</sup> In any case the Ilerda denarius is clearly the most worn of the pieces in the Cordova hoard.

TARRACO (no. 2). Denarii of Tarraco<sup>7</sup> are not the earliest of all the issues of that mint, being preceded by the bronze issues Hill

<sup>6</sup> Schulten, *Numantia* IV, p. 242, no. 134, pl. 54, from camp III. Note: the date-level of camp III, for numismatic purposes, must be considered virtually identical with that of the Scipionic camps, for in both the Roman coins go down to about the same point, c. 133 B.C., on Sydenham's chronology.

<sup>7</sup> The inscription 'Cese' is universally accepted as the equivalent of Cissa or the tribal name of the Cessetani or Kosetanoi, attested by the ancient sources. Whether the coins inscribed 'Cesse' (Hill pl. V, 1-2, e.g.) are strictly of the same mint, as Hill implies (p. 41) seems to me doubtful: I think Vives is right

(*NNM* 50), pl. III, 7–10 and Vives (*La Moneda Hispanica*) pl. XXXI, 1–10. The hoard coin is almost as worn as that of Ilerda and more so than most if not all the others. The Tarraco denarius issue is clearly before the fall of Numantia in any case, as the finds there contained a bronze piece from the next issue after the denarius (Hill pl. IV, 5: *Numantia* vol. IV, p. 241, no. 131). As in the case of Ilerda the size of the issue is poorly attested by hoard-appearances, which apart from the present instance consist of isolated pieces in the Salvacañete and Segaró hoards. But of eleven specimens in the BM, ANS and HSA collections only two repeat the same dies, and further dies are known. The reverse type is noteworthy for the appearance of two horses, presumably suggested by the model of the Roman denarius, and among the Iberian denarii is only otherwise found on those of the Icalgusken (nos. 37–81). The fact that the hoard piece is plated is no obstacle to an early date: two of the Osca denarii (nos. 16, 24) in the hoard are also plated.

SAGUNTUM (no. 3). The Latin name of Saguntum does not occur until a fairly late stage in the coinage, Hill pl. XXII, 12. The series of silver, struck on a standard that may be that of the Roman victoriatus but which may perhaps be only a somewhat lightened version of the Massiliote drachm, belongs more or less to the first half of the second century: the hoard piece is one of the later members of it and may be interpolated between Hill pl. XXII, 5 and 6.<sup>8</sup> It is difficult to see that it can overlap at all with the regular series of bronze, Hill pl. XXII, 8–9, which in my view is of the mid-second century, before the fall of Numantia.<sup>9</sup> If this is correct the silver probably ceased by c. 150 B.C. and the hoard piece will be somewhat before that date.

to separate them as a distinct mint. This is surely possible, even if the legend represents varying forms of the same tribal name—cf. the 'Iltirda' coinage of Ilerda and 'Iltrescen' which is certainly another mint, perhaps Dertosa; also the possibility suggested below that the Contrebia coins, viz. those with the tribal name 'Contebacom,' probably emanate from two distinct mints.

<sup>8</sup> Hill pl. XXII, 2 is a coin of Saetabi, cf. *Ampurias* XIII pl. I, 8.

<sup>9</sup> If it is feasible to connect with these asses the small pieces (sextantes?) like Hill pl. XXIII, 14 on account of the Star symbol which appears on both, then the dating is clear, for a specimen of Hill pl. XXIII, 14 was in the Numantia finds, *Numantia* IV, p. 38, no. 147, wrongly identified as a coin of (?) Tarentum. Srta. M. Perez Alcorta, in *NumHisp* IV, 8, proposes however to put these asses of the 'jinete' type after the Roma head asses.

OSCA (nos. 4–27). The more worn of the Oscan denarii seem almost as old as those of Tarraco and Ilerda. The remainder had clearly seen more circulation than the hoard specimens of some of the other mints, Bascunes, Arecoradas, Arsaos, Turiaso and Contrebia (nos. 28–36): these latter constitute the latest group in the hoard, and must have been issued after the fall of Numantia (133 B.C.). We cannot say definitely on this account that the Osca coinage stopped in 133 but it seems likely that as a whole the type here represented is largely before that date. This would tally with the fact that the bronze coins corresponding to this type of denarius are well represented at Numantia, where the finds also included the bronze core of a plated denarius very similar to Cordova hoard no. 6.<sup>10</sup>

At a later date, however, the denarius coinage of Osca revived. None of the later type pieces occur in the Cordova hoard, which gives us a *terminus post quem* for the later type of c. 100 B.C. The revival is marked by the issue of more compact and neater style, easily distinguishable from the Cordova hoard type: the later style is represented in the Palenzuela hoard (here PLATE XVIII, e, f)<sup>11</sup> buried c. 73 B.C. and in the finds from Azaila<sup>12</sup> (Gomez-Moreno *Notas* pl. V, 12) probably also buried about the same date. There is thus incidentally no justification for supposing that the Osca denarius continued to be issued until a date “late in the first century B.C.” (Hill p. 139): there are no later types than those represented at Palenzuela and Azaila, so that the coinage must have ceased at the end of the Sertorian war. Indeed there seems no evidence that any of the Iberian denarii of mints other than Osca can have been minted later than about 70 B.C., either. It is certainly tempting to associate the revival of the Osca denarius to some extent with Sertorius, though it is possible that the later denarius type had already started a little before his time.<sup>13</sup> But

<sup>10</sup> *Numantia* IV, p. 242, no. 133 and p. 245, nos. 171–177.

<sup>11</sup> Photos received by the courtesy of M. Luisa Fernandez Noguera, Director of the Palencia museum, where the Palenzuela hoard is preserved.

<sup>12</sup> Azaila: Cabré, *Mem. Num. Esp.* 1921 (June) pp. 25 ff. See also P. Beltran in *Bol. Arq. Sudeste Espanol* no. 2, 1945, pp. 135 ff., for the view that the Azaila hoards date from c. 49 B.C. I am inclined to think that Cabré's date is preferable.

<sup>13</sup> There may be some in the Salvacanete hoard of c. 95 B.C. (Sydenham (dating): Cabré in *AEA* 1936, pp. 155 ff. gives refs. by Vives both to pl. XLIII, 2 (later type) and XLIII, 3 (earlier type), but does not illustrate the actual coins from the hoard.

it would be an exaggeration to think that the time of Sertorius was the apogee of the Osca coinage, *pace* Mateu y Llopis,<sup>14</sup> for it is just at this period that other mints, notably Segobriga and Turiaso, hold unrivalled first place in the hoards. The Palenzuela hoard is typical, containing 1071 Segobriga, 837 Turiaso, 359 Bascunes and smaller numbers of other mints including 151 Osca. Other hoards of this time (Barcus, Borja, Roa) equally show a vast preponderance of Segobriga and Turiaso, but few if any pieces of Osca. The Osca revival seems then to have been of comparatively limited scope.

This point, in conjunction with our conclusion from the Cordova hoard material that the earlier type of Osca was in plentiful issue before c. 133 B.C., dwindling or stopping after that date, may lead to a reflection about the possible dating of certain further hoards which are not in themselves strictly datable, as they contain no Roman pieces. Hoards from Aluenda, Calatayud, Garray, Huesca, and Quintana Redonda<sup>15</sup> included no Roman denarii and had a great preponderance of pieces from Osca. Such hoards do not agree at all with the pattern of hoards from the time of Sertorius (Palenzuela etc.) and it is therefore reasonable to expect that hoards which are mainly or wholly Oscan in content should belong rather to the time of the Viriathic and Numantine wars: if this is not so, then there would be no hoards at all between the Tivisa-Las Ansies group mentioned above, and the group of which the Cordova hoard is one of the earliest, starting in the last decade of the second century and continuing through until half-way through the first.

Of the political situation of Osca during the wars of the mid-second century we know nothing, nor is it known to what extent Osca may have been affected by the fall of Numantia. It does however seem clear that of the inland cities Osca alone (with, of course, her close associates Segia and Sesars, who both made small denarius issues at

<sup>14</sup> Los Tesoros Monetarios de la Epoca Sertoriana (appendix to Schulten, Sertorio, Spanish edition, Barcelona 1949) p. 14 of the offprint, conclusion point 4, especially that the Osca denarius 'acabó por sobreponerse a todos los demás denarios ibericos, siendo la última acuñación con este alfabeto.'

<sup>15</sup> Aluenda, Calatayud—Mateu y Llopis, *Hallazgos* no. CLV.

Calatayud—do. no. 503.

Garray, Soria—Gomez-Moreno *Notas* p. 18.

Huesca—Mateu, *Hallazgos* no. 242.

Quintana Redonda—Gomez-Moreno *Notas* p. 18.

this time) had a virtual monopoly of the issue of denarii: but that after the fall of Numantia this monopoly vanished, and the issues of other mints held the field.

ARECORADAS (nos. 31–32). The denarii of this mint in the Cordova hoard are not the latest—the later group, typical of the Palenzuela and Borja<sup>16</sup> hoards, being absent. The Cordova pieces are quite fresh and should date from the last decades of the second century. The problem of the location of this mint is not yet satisfactorily solved: it has usually been placed in the upper Ebro (Arguedas, Tudela: Gomez-Moreno's view, cited by Mateu y Llopis in *Pirineos* 5, 1947, p. 39) or in Soria (Agreda: Heiss p. 240), Zobel indeed even identifying it with Numantia (*Mem. Num. Esp.* V, p. 85). I doubt if it is really sound to locate it further south on the ground of the Luzaga tablet (whose inscription mentions the name 'Areqoraticubos') as does Beltran (*Curso de Num.*, 1950 edn., p. 325). The fact that none of the coins of this mint were represented in the finds from Numantia does not of course prove that the mint was not in that area. But the fact that most of the Arecoradas issues are definitely later than 133 B.C. is fatal to Zobel's attribution to Numantia itself, as that city did not revive until early imperial times.<sup>17</sup>

BASCUNES (nos. 28–30), ARSAOS (no. 33). Both mints belong to the Pampluna area, as is amply confirmed by Mateu y Llopis' account of the contents of the Pampluna cathedral collection (*Ampurias* VI, p. 219): very probably Pompaelo itself was the mint of the Bascunes, being the capital of their territory. These pieces, again, are quite fresh and are datable to the last decades of the second century. Similar denarii of both mints are still present, not in noticeably worn state, in the later Borja hoard (1–5, 41–50, 51–60). Preceding the issues to which the denarii of both mints belong are groups of bronze of semi-barbarous style (Bascunes, Hill pl. XXX, 1; Arsaos, Hill pl. XXX, 9) which must be early as they are represented at Numantia<sup>18</sup>—and with these must evidently be associated an early issue

<sup>16</sup> The Borja hoard is thus definitely of the same date as that of Palenzuela, though C. Millan, *Actes of the Paris congress of 1953*, publ. 1957, pp. 433 ff., suggests no date.

<sup>17</sup> The pre-denarius bronze issues of Arecoradas, Vives pl. XL, 2–4, are not necessarily before 133 B.C.

<sup>18</sup> *Numantia* IV, pl. 54, nos. 182 and 190.



of Turiaso (Hill pl. XXXII, 12), though this was not included at Numantia.

TURIASO (nos. 34–5). The denarii of Turiaso are numerous and evidently represent a fairly prolonged issue: the pieces in the Cordova hoard seem to be of earlier style than many of those in the Borja hoard (64–70, 78–80), the latter being rather analogous in style to the later Osca issue found in the Palenzuela hoard. That the great mass of the Turiaso denarii is subsequent to the date of the Cordova hoard is in any case suggested by their preponderance, together with Segobriga, in the Palenzuela and other hoards.

CONTREBIA (no. 36). The sole piece in the Cordova hoard is, equally with the foregoing, evidently of the late second century. Only one group of denarii was struck at this mint, *Carbica*-Contrebia, which I regard as distinct from *Bel*-Contrebia (Vives pl. XXXIX, 7–10). *Carbica* is probably to be located in the Guadalajara region, not too far from Segobriga (Cabeza del Griego)—there is a striking similarity of style between a late *Carbica* issue (Vives pl. XXXIX, 4) and one of Segobriga (Vives pl. CXXXV, 1) which has a Latin inscription and probably dates towards the mid-first century. *Bel*-Contrebia on the other hand seems to me to belong stylistically nearer to the Ebro region, and it is noteworthy that in the Azaila hoards seven out of ten coins of Contrebia are of the *Bel* group.<sup>19</sup>

ICALGUSKEN (nos. 37–81). Apart from those of Osca, the most important group of denarii in the Cordova hoard consists of pieces struck at a southern mint named Icalgusken or Icalgunsken. This is the reading of the legend given by Gomez-Moreno in *Miscelaneas* pp. 182, 184: the legend has also been discussed in detail by Mateu y Llopis.<sup>20</sup> There is little doubt about the transcription of most of the letters; notably *Ca* and *L* are identical with the forms of those letters that are found at Castulo, *S* and *Ke* also being found at Urkesken (Urci). Mateu has proposed reading the fourth letter as *Tu* instead of *Cu* or *Gu*, but this finds no support from analogy with Castulo, where

<sup>19</sup> Information kindly supplied by Prof. Navascues, with the invaluable aid of impressions made by Srta. M. Perez Alcorta, to both of whom my best thanks are due. The Contrebia types in the Azaila hoards were not distinguished in Cabré's publication.

<sup>20</sup> Cecas Bastitanas (in *Cronica del IV Congreso arqu. del sudeste español*, Elche 1948, pp. 228 ff.) p. 234.

the letter standing for *Tu* or *Te* invariably has a cross-stroke. This is never the case with the Icalgusken coins: the letter in question without either cross-stroke or central dot is however a perfectly admissible form for *Gu* or *Cu*, and indeed so occurs on coins of the Bascunes in this hoard (nos. 28–9). Mateu's *Icaltu(n)eken* is therefore not a probable reading, and the identification suggested on that basis is with Alicante-Lucentum must be considered most unlikely.

No satisfactory identification of the mint is in fact to hand at present. The coins of this mint are always found in southern Spain, but so far we have not enough recorded find-spots of the corresponding bronze coins to determine the location. Mateu y Llopis in his invaluable series of *Hallazgos Monetarios* has recorded the following:<sup>21</sup> Granada (Museo arqueológico), 2 *AR*, 3 *AE* (*NumHisp* I, p. 227); Motilla del Palancar, 3 *AR*, 1 *AE* (*Ampurias* VII/VIII, p. 240); Lerida, 1 *AR* (*Hallazgos* no. 10); single bronze pieces from Oporto (*Hallazgos* no. 265), Munda (*Hallazgos* no. 571). Two more single bronze specimens in the HSA (ex Cervera) collection came from sources at Valencia and Cartagena respectively. These find-spots are clearly too few and too widespread to take us very far.

There are the suggestions that the mint was Acci (Zobel) or Iliberris (Heiss), for neither of which any cogent reasons exist: or Cartagena (Gomez-Moreno) which is at least near to some of the most famous silver mines of antiquity, but which would still involve the assumption that the name occurring on the coins must stand for some tribe in that area—though no such is attested for the vicinity of Cartagena, and silver mines existed in other parts of southern Spain. If we look simply at find-spots of hoards containing a good number of the silver pieces (as opposed to those merely containing an odd piece or two) we have only the Azuel-Villa del Rio hoard<sup>22</sup> and the Cordova hoard. Both of these, whether by coincidence or not, are in the same region:

<sup>21</sup> *Hallazgos Monetarios*: the first six installments appeared in *Ampurias*, up to vol. XIII, the subsequent ones in *Numario Hispanico*.

<sup>22</sup> Azuel-Villa del Rio: Gomez-Moreno *Notas* p. 17 (the original edition in *Anuario del Cuerpo Facultativo de Archiveros Bibliotecarios y Arqueólogos*, Vol. II, 1934), *Miscelaneas* pp. 343 ff., Zobel in *Mem. Num. Esp.* IV, p. 277. Other occurrences of Icalgusken denarii in hoards consist of 8 pieces in the Salvacanete hoard (*AEA* 1936, pp. 155 ff.) and a single piece in each of the following: – Cartagena, Cazlona, Mogon, Palenzuela, Pozoblanco. All these are hoards from the south of Spain except Palenzuela.

Azuel is about 40 km. up the Guadalquivir from Cordova. The Azuel hoard apparently contained much the same selection of Icalgusken denarii as that from Cordova, as can be seen from Gomez-Moreno *Notas* pl. IV, 12–18. The burial date of the Azuel hoard, given by Gomez-Moreno as the same as that of Oliva, should be c. 96 B.C. (Sydenham), and so not widely different from the Cordova hoard. Though in the case of Azuel sufficient details are not forthcoming, it is worth emphasizing that the Cordova hoard contains, as is apparent from the catalogue, numerous Icalgusken specimens which are die-duplicates. This fact, other things being equal, should mean that the coins had not travelled very far from their place of origin. Can we conceive that they were after all minted somewhere in the Guadalquivir valley rather than on the east coast? This may not be a particularly comfortable thought, yet it would give a location more nearly in agreement with that of the tribal name of the Igletes, a name which as Gomez-Moreno suggests (*Miscelaneas* p. 185) would bear being brought into relation with the Icalgusken. The Igletes, also recorded as Gletes or Ileates, are supposed to have been located between Cordova and Seville (*FHA* I, 105, II, 37–8, 186). Few if any students of the Iberian coinages will be prepared to consider this seriously as a possible area for a denarius coinage.

Clearly a good deal more evidence is required to enable us to solve this problem. Meanwhile it may be worth citing for its possible connection with the Icalgusken of the coins the name of Egelasta, a town in the region of Castulo (Pauly-Wissowa s.v. Egelasta, col. 1980: cf. *CIL* II, 5091). This name is just as good a fit with the legend on the coins as the name of the Igletes, and is much nearer to a plausible location for the coins—also scarcely further from the find-spots of the Azuel and Cordova hoards than the Igletes would be. It is also near the silver mines of the Linares and Centenillo region, and the Mons Argentarius mentioned by ancient authors.<sup>23</sup>

The dating of this series seems to be c. 150–c. 100 B.C. The earlier pieces are not quite as worn as the denarius of Tarraco, whose type they imitate, or the earlier specimens of Osca and need not have started before 150. The later pieces show a state of preservation similar to that of the later pieces from northern mints, and the issue

<sup>23</sup> O. Davies, *Roman Mines in Europe*, ch. IV, esp. p. 136.

ceased by about 100 B.C., for there are no further groups (though there are further die-varieties) not represented in the Cordova hoard, except those few degenerate or barbarous specimens likewise absent from the Azuel hoard (Gomez-Moreno *Notas* pl. IV, 19–20 and p. 20).

As Mattingly remarked in his original publication of the Cordova hoard, it shows clearly that the Iberian denarii were still being issued at the end of the second century. It has indeed long been apparent that Zobel's over-rigid scheme, whereby the Iberian coinages as a whole virtually ceased after the fall of Numantia (except for a very brief revival in the time of Sertorius), is without foundation. As the evidence continues to accumulate, we can try to secure more nuances in our picture of the Iberian coinages and their development: and although, as I have indicated above, Zobel's formula may yet to some degree apply to the case of Osca, it is clear that most of the other mints producing denarii were enjoying their period of highest productivity after 133 B.C. down to the end of the Sertorian war (72 B.C.). The reorganization of Roman Spain after 133 was evidently not in the least repressive towards the issue of their own coinages by the Iberians, though as the hoards buried from the end of the second century onwards (of which the Cordova hoard is one of the earliest) also show, it was at this epoch that there began the real influx of Roman coin which gradually replaced the native product.

### CATALOGUE

#### 1. ILERDA.

Beardless head r., two dolphins / rider with palm.

*ILTRDASALIRBAN*

3.90.

#### 2. TARRACO.

Beardless head r. / two horses, rider with palm.

*CESE*

2.66 (plated).

#### 3. SAGUNTUM.

Diademed beardless head r. / bull charging r., shell.

*ARSGDAR*

2.74.

5°

## 4.-27. OSCA.

Bearded head r. / rider with spear.

*BON**BOLSCAN*

4.05, 4.14, 4.31, 4.00, 4.23, 4.07, 3.88, 4.04, 4.45, 4.11, 3.5  
 4.10, 3.90 (plated?), 3.58, 4.30, 4.00, 4.02, 3.60, 3.07  
 2.60 (plated), 3.57, 4.29, 2.37 (halved).

Nos. 22, 23 same obv. die.

## 28.-30. BASCUNES.

Bearded head r. / rider with short sword.

*BENCODA**BASCUNES*

3.48, 4.29, 3.69.

## 31.-32. ARECORADAS.

Beardless head r. / rider with spear.

*CU**ARECORADA*

4.23, 4.06.

## 33. ARSAOS.

Bearded head r., plough and dolphin / rider with arrow.

*ARSAOS*

4.03.

## 34.-35. TURIASO.

Bearded head r. (34) *CA* crescent *DU* / (35) *CA S DU* /  
 / rider with spear. *DURIASU*

4.02, 4.34.

## 36. CONTREBIA.

Beardless head r. / rider with spear.

*CARBICA**CONTERBIA*

4.13.

## 37.-81. ICALGU(N)SKEN.

Beardless head r. / rider with shield, two horses.

Legends: - (A) *ICALGUSKEN* (diamond-shaped *GU*)(B) *ICALGUNSKEN* (circular *GU*)(C) *ICALGUSKEN* (circular *GU*)

- 37–8. Dies A / a. Legend (A)  
4.18, 3.88.
- 39–41. Dies A / b. Legend (A)  
4.18, 3.95, 4.11.
42. Dies A / c. Legend (A). Obv. die deteriorated.  
3.99.
43. Dies A / d. Legend (A)  
3.96.
44. Dies A / e. Legend (A)  
3.41.
- 44A. Dies B / b: not from hoard.
45. Dies B / f. Legend (A)  
3.45.
46. Dies C / g. Legend (A)  
3.01 (plated).
47. Dies D / h. Legend (B)  
3.92.
- 48A. Dies E / j: not from hoard.
48. Dies E / k. Legend (B)  
4.00.
- 48B. Dies E / h: not from hoard.
- 49–51. Dies F / h. Legend (B).  
3.80, 3.73, 3.81
- 52–58. Dies G / h. Legend (B). Rev. die deteriorated.  
3.93, 3.98, 3.90, 3.63, 3.84, 4.31, 3.68.
- 59–61. Dies G / k. Legend (B). Obv. die deteriorated.  
3.80, 3.81, 3.74.
- 62–64. Dies G / l. Legend (B)  
3.70, 4.00, 3.65.

65–66. Dies H / h. Legend (B)

3.92, 3.87.

67–68. Dies H / m. Legend (B)

3.75. Wt. of no. 68 not recorded (coin no longer in B.M. having been disposed of as a duplicate).

69. Dies J / m. Legend (B)

3.29.

69A. Dies J / n: not from hoard.

70–71. Dies K / n. Legend (B)

3.85, 4.08.

72. Dies L / o. Legend (C)

3.97.

73. Dies M / p. Legend (C)

3.95.

74. Dies N / q. Legend (C)

3.98.

75. Dies O / r. Legend (C)

3.63.

76–77. Dies O / s. Legend (A)

3.88, 3.64.

78–80. Dies P / s. Legend (A)

4.00, 3.53, 3.83.

81. Dies Q / s. Legend (A)

3.98.

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## CARTHAGO NOVA OR ILICI?

(SEE PLATE XIX, I-4)

There are, fortunately, few cases in the Roman colonial coinage of Spain where we have any real problem of attribution. Most of the issues are clearly marked with the mint of origin. Such cases as remain doubtful or arguable are not found in the north, viz., the Ebro valley, Catalonia or Valencia, but only in the south. The issues of Carthago Nova lack any direct indication of their place of origin until the early years of the principate of Tiberius: yet fortunately there is little doubt that the series attributed to that mint do in fact belong there in almost all cases, though not quite in all. An extensive study of this mint has recently been published by A. Beltrán<sup>1</sup> and with most of his attributions there can be no disagreement: in particular, he is undoubtedly right in reassigning to this mint certain issues which M. Grant had suggested belonged elsewhere.<sup>2</sup>

It is with one or two exceptions that I am here concerned. One issue which I cannot feel at all convinced belongs to Carthago Nova is Beltrán's no. 7-8, *Cn. Statilius Libo praef. / Sacerdos* (Vives, cxxxi, 7). The style of this issue with its finely executed portrait seems quite out of place at Carthago Nova, and it seems even more dubious whether the portrait can reasonably be regarded as that of Lepidus or whether the *Sacerdos* on the reverse can possibly be considered the equivalent of *Pontifex Maximus*.<sup>3</sup> I do not gather from Beltrán's work that there are definite provenances which would clinch the attribution.<sup>4</sup> On the other hand I understand that there is a specimen in the Cadiz Museum;<sup>5</sup> and another was found at

<sup>1</sup> A. Beltrán, *Las Monedas Latinas de Cartagena* (Murcia, 1949).

<sup>2</sup> Michael Grant, *From Imperium to Auctoritas*, pp. 158f., pp. 215f.

<sup>3</sup> The very debatable presence of the word *QVINQ* on the obverse of one of Beltrán's specimens would not be conclusive, of course, since Carthago Nova was not the only mint where signatures of quinquennial duumviri appeared.

<sup>4</sup> Beltrán, op. cit., p. 23, cites specimens from the Valdés collection in Valencia and from the Albacete museum.

<sup>5</sup> Information from Professor Grant kindly sent me in a letter.



Carteia in 1754.<sup>6</sup> These provenances suggest that perhaps some mint further west than Cartagena may be considered: one may also recall Delgado's<sup>7</sup> suggestion of Cordova, which is not necessarily wrong.

The present note however is primarily concerned with another issue for which Beltran adheres to the traditional attribution to Carthago Nova. This is an issue of asses and semisses in the names of *C. Var. Rufus* and *Sex. Iul. Pollio, duumviri quinquennales*.

*Obv.* AVGVSTVS DIVI F.

Head of Augustus, laur., r.

*Rev.* C. VAR. RVF. SEX. IVL. POL. II VIR Q.

Apex, securis, aspergillum, simpulum. PLATE XIX, 2, 3.

It seems impossible on the grounds of style to admit the attribution to Carthago Nova, and Grant has suggested in *FITA* (p. 212) that we ought to accept rather Lorichs' suggestion to attribute the issue to Celsa. This was on the basis of a supposed obverse die-identity, upon which Hill<sup>8</sup> likewise comments, but which he did not find in the material available to him. Should such a die-identity exist, even, it would not finally of itself prove that Celsa was the mint of the *Rufus-Pollio* issue, as we have in other parts of the ancient world numerous examples of the same die used at different mints.<sup>9</sup> But the issue seems in any case quite out of place at Celsa, where every other issue has consistently the *Bull* reverse type. I doubt, as Hill did, whether the alleged die-identity really exists. From the material I have, which includes all that Hill had in reproduction or in actual coins, with the addition of the American Numismatic Society's and the Hispanic Society of America's collections (now amalgamated and giving a further thirty-five specimens of the issue in question), I can positively

<sup>6</sup> MS on Carteia, by a commander of the Gibraltar artillery, 1754: sketches of coins given, apart from Roman imperial, are almost entirely of Carteia pieces, with the addition of one piece of Obulco and one Libo/Sacerdos coin. The MS volume was presented to the British Museum by C. E. Blunt, Esq.

<sup>7</sup> *Nuevo Método de clasificación de las Medallas Antónomas de España* I, pp. 126 ff.

<sup>8</sup> Hill, *NNM* 50, p. 84.

<sup>9</sup> This is not the place for an exhaustive list. Easily accessible instances are: Seltman, *Greek Coins* pl. XXXVII. 9, 10 (Hierapytna and Eleutherna); Newell, *Dated Alexander Coinage of Sidon and Ake*, Yale 1916, p. 53 (common obv. die at Sidon and Ake); L. Robert, *Villes d'Asie Mineure*, esp. p. 189 (common dies between towns in Asia Minor in the imperial period).

state that I have found no such die-identity. Furthermore I would be prepared to argue, from certain constant differences in the treatment of details, that no such die-identity is to be expected. These are details which are to be found on the *L. Baggius-M. Festus* issue of Celsa (*Vives*, clxi, 2, here PLATE XIX, 1): (1) at Celsa the wreath ties hang well below the neck truncation and the ties themselves swell out and in again near the bottom end, whereas on the *Rufus-Pollio* issue this is never the case; (2) at Celsa there is at the top of the wreath ties a loop, evidently representing the loop of the actual knot, which again is never found on the *Rufus-Pollio* issue. Such details, of no little importance in themselves, are yet without prejudice to the close general stylistic similarity between the coins with which we are concerned and the Celsan pieces. It is also noticeable, however, that the obverse heads on the *Rufus-Pollio* coins are usually somewhat smaller than at Celsa, and indeed I doubt if anyone who has handled a good number of both issues would have much difficulty in distinguishing them apart by the obverses alone.

The question of provenance is also, it seems, against Celsa. Beltrán states, and I do not doubt that he is right, that the *Rufus-Pollio* coins are always found in the south-east of Spain and never in the Ebro valley.<sup>10</sup> This is entirely born out by the absence of specimens from the Ablitas hoard and from the Roman levels of Numantia.<sup>11</sup> In view of the comparative commonness of the *Rufus-Pollio* issue, this negative evidence has some force.<sup>12</sup>

In my view, the problem of attribution is very simple, but is not best solved by choosing Carthago Nova as the mint. Ilici, on the other hand, which is in the same region, has an issue which is of an identical obverse style, and in fact gives a rather closer comparison than the aforementioned pieces of Celsa; this is the issue of *Q. Papir. Car.—Q. Tere. Mont.* (*Vives* cxxxiii, 4, PLATE XIX, 4.). It is true that all

<sup>10</sup> A. Beltrán in *Numisma* II, pp. 28–9. I can add that one piece in the Cervera collection was from a source in Murcia (MS catalogue of the collection now in the ANS library—no. 1387).

<sup>11</sup> Mateu y Llopis, *Príncipe de Viana* num. XXI, pp. 3 ff.: Haeberlin *ap.* Schulten, *Numantia* IV, pp. 235–283.

<sup>12</sup> On the same grounds, *inter alia*, Osca could be ruled out: at that mint we have the exact arrangement of pontifical emblems repeated on the denarii (Hill, *NNM* 50, pl. XXVI, 9), of Domitius Calvinus.

the Ilici issues have an explicit designation of the mint, which is not the case with the *Rufus-Pollio* issue, but that is scarcely an obstacle to an attribution to Ilici, for if so it would be an objection to any or all possible attributions. Nor is it any serious objection that at Ilici only semisses and not asses were issued under Augustus, for virtually the same situation obtains at Carthago Nova, where, except for asses at the very end of the reign, there are only semisses.

As for the date of the *Rufus-Pollio* issue, if attributed to Ilici instead of to Carthago Nova, no difficulty is caused since there are only two attested issues at Ilici for the principate of Augustus, those of *L. Manlio-T. Petronio* (*Vives* cxxxiii, 1-3) and that of *Q. Papir. Car.-Q. Tere. Mont.* (*Vives* cxxxiii, 4) already mentioned. These two issues consist of semisses only, so it is permissible to suggest that if the *Rufus-Pollio* issue is to be added to these it will be later than the other issues. There are, it seems, no completely cogent reasons for assigning very exact dates to either of the semis issues, though P. Beltrán suggests *c.* 23 B.C. and *c.* 13/12 B.C. respectively.<sup>13</sup> *Divi f.* as the sole titulature of Augustus should be comparatively early:<sup>14</sup> at Celsa, for instance, it is used down to the issue prior to that of *c.* 5-3 B.C. (which itself has *Cos. XII*), and most mints adopt P.P. from presumably *c.* 2 B.C. onwards. With all due reserves we may suggest that the Augustan issues of Ilici were the following: (1) *c.* 23 B.C., L. Manlius, T. Petronius; (2) *c.* 18 B.C., Q. Papir. Carbo, Q. Ter. Montanus; (3) *c.* 13 B.C., C. Var. Rufus, Sex. Iul. Pollio.

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<sup>13</sup> P. Beltrán, "Las Primeras Monedas Latinas de Ilici," *Junta Municipal de Archeologia de Cartagena, Publicaciones I*, 1945.

<sup>14</sup> An isolated instance at Caesaraugusta may be as late as A.D. 4 (Hill, p. 90) or even A.D. 12 (Gil Farrés, *Ampurias XIII*).

## A COUNTERMARKED AUGUSTAN CISTOPHORUS IN NEW YORK

(SEE PLATE XIX, 5-6)

The following coin, in the possession of the American Numismatic Society, offers points of unusual interest to which attention has not, apparently, been directed before:

*Obv.* IMP-CAE-ŞAR below bare head of Augustus r.; to r. (reading ↙), countermark MRESNC in sunken oblong; linear border.

*Rev.* AVGVSTVS above garlanded and filleted altar-enclosure decorated with two hinds standing l. and r.; linear border.

Æ. 11.21 gm. Dies ↑↑.

Cistophoric tetradrachms of this type are attributed to Ephesus<sup>1</sup> on account of the content of the reverse type, and it has been argued<sup>2</sup> that, since nearly forty obverse dies are distinguishable, the group in question was a relatively large one covering an appreciable period early in Augustus' reign.

The present coin is very considerably worn, and is in fact about half a gramme lighter than an average Augustan cistophorus in fresher condition should weigh.<sup>3</sup> And it is presumably this high degree of wear which accounts to some degree for the countermark. The date at which the countermark was applied is not, however, as self-evident as casual examination of it (and conceivably also of others like it) has tended to suggest. Bahrfeldt<sup>4</sup> called attention to the reading by de Saulcy<sup>5</sup> of the countermark M $\Psi$ ESNC on two cistophori of Clau-

<sup>1</sup> *BMCRE* I, p. 112.

<sup>2</sup> By A. M. Woodward, *NC*, 1952, pp. 25 f.

<sup>3</sup> Cf. *BMCRE* I, introd., p. liii.

<sup>4</sup> *ZfN*, 1876, p. 354, n. 1.

<sup>5</sup> De Saulcy, de Barthélemy, Hucher, *Mélanges de Numismatique* I (1875), p. 190, nos. 1, 2. It is worth noting that Bahrfeldt incorrectly transcribed what de Saulcy printed, inserting a point after M $\Psi$  and substituting  $\Psi$  for  $\Psi$ ; in the latter change he was, perhaps, ultimately more accurate than de Saulcy, as will be seen later.

dius;<sup>6</sup> and Mattingly<sup>7</sup> reproduced Bahrfeldt's observation, adding the comments (a) that the countermark should be read to understand IMP VESP AVG (i.e. from a terminal *Λ*C and not NC)<sup>8</sup> and (b) that the same mark was to be seen on an Augustan cistophorus at one time in Berlin. Such countermarks as these, if they exist, would go to show the re-validation by Vespasian, for one reason or another, of cistophori ranging from Augustan to Claudian date. In the case of an Augustan cistophorus, which might by then have circulated for just on a century, severe wear could have prompted such certification. But in the case of Claudian pieces, one of them hardly three decades old,<sup>9</sup> the same cause would be harder to understand.

In fact, however, the countermarks noted by de Saulcy, Bahrfeldt, and Mattingly are in all probability quite unconnected with Vespasian. That Vespasian occasionally countermarked worn denarii, pre-Augustan and Augustan, with *MP* *VES* is well known.<sup>10</sup> But the countermark on the New York coin includes neither an abbreviated form of the name 'Vespasian' nor a ligated form of the abbreviated title 'Aug.' The element of chief importance in its interpretation is the oblique downward stroke preceding the letter E. If it is examined carefully this is seen to be not a straight limb such as would be found (and required) for the first stroke of the Roman V if placed on its side *∇*, the second stroke being provided by the upright of the E, but a curved stroke, tapering to the bottom and thus (by convention) starting from the top. The stroke in question belongs, in other words, not to the E (by ligation), but to the letter before it; and the letter before it, with that stroke as a component, is thus certainly R.

This letter R, however, certainly includes—as well it may—the letter P: the upright stroke serving both P and R is thus included in the final vertical stroke of M, the first vertical of which must, on multiple analogy elsewhere, include I. Thus unravelled, the counter-

Cohen (Ed. 1) I, p. 157, no. 1; p. 174, no. 2 = *RIC* 52, 55 (cistophoric tetradrachms of Ephesus).

<sup>7</sup> *BMCRE* II, introd., p. xvii, n. 4.

<sup>8</sup> Mattingly himself was inaccurate in the matter of the letter P—not included in his own short version of the countermark but present in his expanded version of it and thus, as we shall see, begging a question.

<sup>9</sup> *RIC* 55 (see n. 6 above), with Caludius *TR P X*.

<sup>10</sup> *BMCRE* II, introd., p. xvii; cf. also de Saulcy in *Mélanges*, cit., p. 190, no. 3.

mark, so far from including any reference to Vespasian, will read IMPRES NC. That IMPRES should signify 'impressum' appears to be an obvious conclusion; there could be no more natural verb for 'to countermark' than *imprimere*.

We are left, then, with the letters NC, for NC they very clearly are. Given a countermark which comprises an abbreviated form of the word 'impressum' we should most naturally think that NC may be the abbreviated form of a place-name—the place at which the countermarking was done; earlier suggestions (even those which do not depend upon the false interpretation of MRES as IMP VESP) all seem to be very wide of the mark.<sup>11</sup> Of the names of places at which cistophori might have been countermarked only two can merit serious consideration, namely Nicomedia and Nicaea, both in Bithynia. These two towns had received, almost immediately after Actium, new rights by virtue of their selection as the headquarters for the new κοινὸν Βειθυνίας,<sup>12</sup> as a result of which they became twin (and presumably alternating) capital centres for the business concerned with this politico-religious council and were subsequently both given the official style πρώτη—though the rank of μητρόπολις was reserved to Nicomedia alone.<sup>13</sup> Examination of the coins of these two towns<sup>14</sup> shows that the name Νικομήδεια is abbreviated into the monogrammatic form ΝΚ<sup>15</sup> or ΝΚο.<sup>16</sup> When ΜΗ is appended to either form<sup>17</sup> this should be taken, most probably, as standing for μη<τρόπολις> and not as an expansion of the name Νικ(ο)μή<δεια>, for it was her status as metropolis that most obviously distinguished Nicomedia from Nicaea; moreover ΝΚ (or ΝΚο), when found with ΜΗ, is normally divided from it by an obvious break which might suggest a separate and not a continuing abbreviation. By contrast the name Νίκαια,

<sup>11</sup> Cf. Bahrfeldt in *ZfN*, 1876, already cited.

<sup>12</sup> Grant, *From Imperium to Auctoritas*, p. 353.

<sup>13</sup> Waddington, *Receuil général des monnaies grecques d'Asie mineure* I (iii), p. 395.

<sup>14</sup> Ibid., pp. 395 ff., 512 ff.

<sup>15</sup> Ibid., p. 519, no. 30, etc.

<sup>16</sup> Ibid., p. 518, no. 24, etc.; ΝΕΙ-ΚΟ or ΝΙ-ΚΟ are rarer, cf. ibid., p. 518, no. 25; p. 521, no. 37.

<sup>17</sup> Ibid., p. 519, no. 30; p. 520, nos. 32, 33, etc.

if it is abbreviated at all, is found in the forms NE-IK, **NE-IK** or **Æ**.<sup>18</sup>

For various reasons it may therefore be accepted that **NK** is a normal abbreviation for Nicomedia on Greek imperial *aes*. Certainly at a later time, when a tetrarchic mint was striking imperial Roman coinage at Nicomedia, the place-name was commonly seen in the same form **NK**.<sup>19</sup> Thus the Latinized form **NC**, comprised in a Latin countermark, should likewise refer to *Nicomedia: impressum NC = impressum Nicomediae* = countermarked at Nicomedia.

The question is, when? If the same countermark was in fact observed by de Saulcy on Claudian cistophori we have at least a *terminus post quem* for the operation, and may therefore look for its occasion between Claudius and Hadrian, to the latter of whom Herzfelder has attributed, as issues of Nicomedia,<sup>20</sup> certain cistophori distinguished as much by their peculiarity of style as by the maritime connotations of their reverses. Possibly the countermarking was done under Domitian, when the Greek *aes* types of Nicomedia were sharply multiplied and Augustan cistophori would have been worn by just over a century of use; or possibly it happened under Trajan. In either case the need to countermark old cistophori at Nicomedia could have served as an argument for Hadrian's need to strike new ones there—an argument all the stronger if the majority of pieces thus countermarked were as much worn as the coin in question now.<sup>21</sup>

C. H. V. SUTHERLAND

<sup>18</sup> Ibid., pp. 400ff. The distinction made in Waddington (p. 520, n. 2) between the attribution, one to either town, of issues of Domitian and Trajan bearing reverses which are identical save for the variation of **NK** to **NK̄** seems to be beside the point; the reverse was surely continued at the same mint in two closely successive reigns.

<sup>19</sup> Maurice, *Numismatique constantinienne* III, pp. 5 (nos. IV–V, etc.) ff.

<sup>20</sup> *NC*, 1936, p. 26.

<sup>21</sup> Note, however, that the New York coin, at 11.21 gm., is still heavier than Hadrian's own new cistophoric average (*BMCRE* III, introd., p. xv).

## A NEW MEDALLION OF LUCIUS VERUS

(SEE PLATE XIX, 7)

In the Henry Fairbanks Collection of Greek and Roman coins at Dartmouth College there is the following medallion of Lucius Verus:<sup>1</sup>

*Obv.* Bust of Lucius Verus, draped, cuirassed, head bare and right. Legend starts low left, inwardly: **IMP CAES L AVREL· VERVS AVG**

*Rev.* Verus in military attire, standing left on platform, right arm raised exhorting troops below; officer behind Verus on platform, third figure (very worn) between officer and emperor; three soldiers below facing right, holding standards. Legend below: **ADLOCVTIO**.

Weight: 30.5 grammes. Diameter: 37 millimetres. Die directions: ↑↑. The medallion is in fair condition, except for some wear from rubbing and use of acid in cleaning.

Verus used the *praenomen imperatoris* in A.D. 161–162, but during 162–163 he dropped **IMP** (and **CAESAR** with it) and assumed the title **IMP II**.<sup>2</sup> In the spring of 162 the Parthians invaded Armenia, scattering the Syrian legions, and immediately Marcus Aurelius sent his brother-Augustus, Verus, to take command of the troops at the front.<sup>3</sup> The Dartmouth medallion was no doubt struck in 162 on the occasion of Verus' departure for the East.

Cohen<sup>4</sup> cites a similar reverse type on a sestertius of Verus of about the same date, and Mattingly<sup>5</sup> notes a medallion of Verus (of about 162) with what is probably an *adventus* or *adlocutio*. The style of our medallion is very close to that of a sestertius in Mattingly, minted in Rome in 161–163.<sup>6</sup>

EDWARD L. B. TERRACE

<sup>1</sup> I am indebted to Professor Vernon Hall of Dartmouth College and Professor Thomas Mabbott of Hunter College, New York, who examined the medallion and kindly gave me their advice.

<sup>2</sup> Mattingly, *Coins of the Roman Empire* IV, pp. cxviii f.

<sup>3</sup> *Cambridge Ancient History* XI, pp. 345 ff.

<sup>4</sup> III, p. 172, no. 3; cited again in Froehner, *Les Médaillons de l'Empire Romaine*, p. 86, and Mattingly and Sydenham, *Roman Imperial Coinage*, III, p. 321, no. 1359: *rev.*: **ADLOCUTIO AUG S C**.

<sup>5</sup> *op. cit.*, p. cxlv: Gneccchi, ii, 36.

<sup>6</sup> *ibid.*, p. 556, no. 1071A, pl. 75.6.





## CARACALLA AS "SEVERUS"\*

(SEE PLATES XX–XXIII)

### I. New Evidence

Some attention has been given by scholars to the problem of irregularities in imperial titles and to inconsistent datings which occur in documents of the third century A.D.<sup>1</sup> There is always a question whether we are in these cases dealing with actual or seeming irregularities, for the problems arising from the imperial titulature and chronology of the third century are known to be complicated to all who try to solve them as well as to those who would for no price touch the subject. In this paper I shall discuss not datable parts of the imperial titulature such as the consulship, the tribunician power, or the imperial acclamation, but a simple cognomen—the exceptional appearance on coins struck for Caracalla by a limited number of mints of the name "Severus," the cognomen of that Emperor's father from which the dynasty has taken its name in history. This study has made it possible to add to Münsterberg's list of Caracalla's titles in which "Severus" appears<sup>2</sup> the names of seventeen or eighteen mints reported as employing "Severus" in this Emperor's name. These additions, which have been gleaned from general catalogues and particularly from the coins of the Newell Collection will be indicated in the list below.<sup>3</sup>

\* To Professor John Day in New York and Professor Herbert Youtie and Dr. Elinor Husselman in Ann Arbor I owe thanks for facilitating my collection of papyrological evidence. Richard Breaden and Geoffrey North of The American Numismatic Society's Library and Mary Rollman of the Library of the University of Michigan kindly procured for me books necessary to complete this article.

<sup>1</sup> For example, F. W. Snyder, "Note on the Irregular Evidence Upon the Date of the Beginning of the Year of the Tribunician Power During the Reigns of Septimius Severus and Caracalla," *MAAR* 15 (1938); A. A. Boyce, "The Twelfth Imperial Acclamation of Septimius Severus," *AJA* 53 (1949), pp. 35–76.

<sup>2</sup> R. Münsterberg, "Die römischen Kaisernamen der griechischen Münzen," *NZ* 59 (1926), pp. 28–9.

<sup>3</sup> Illustrations (PLATES XX–XXIII) have been confined to groups specifically discussed here: Alexandrian coins, coins of Berytus and of cities in Thracian and Moesian districts. All coins illustrated are at the *ANS*.

*Cities Issuing Coins with "Severus" in Caracalla's Name*

The asterisk \* indicates cities not recorded by Münsterberg ("Die römischen Kaisernamen der griechischen Münzen," *NZ* 59, 1926, pp. 28–9). I have listed Mionnet only in cases where this catalogue is the sole authority known to me for the evidence, omitting reference to it where there is other and more dependable authority; in those cases where Mionnet alone is mentioned confirmation is required. A question mark indicates that the reading seems to me difficult where I have been able to check from a photograph, or that there was an element of conjecture on the part of the editor of the work consulted. There is some possibility that in a rare instance the emperor concerned is Elagabalus rather than Caracalla (see Münsterberg, pp. 28, 32) and that some mint using "Severus" has been listed by Münsterberg when it should have been placed under Caracalla, or vice versa. Mints for which evidence is slight (i.e., a single coin) have been reported for Elagabalus by such an authority as Imhoof-Blumer (see Münsterberg, p. 32) but without photograph. Hence for the purpose of confirmation or correction and for adding new evidence, close observation is needed wherever the evidence crops up.

It seems certain that "Severus" was used for Elagabalus at Antioch but not for Caracalla (see note 5). On the other hand, "Severus" was used for *both* on coins of Perinthus. I have yet to find confirmation for Elagabalus as "Severus" at Caesarea in Cappadocia (Mion. 4, p. 431): but the present study is merely preliminary for Caracalla and does not pretend to cover Elagabalus. Any final settlement which distinguishes between the "Severan" coinage of the two emperors will involve direct study of large numbers of coins of particularly difficult mints, such as Edessa.

The geographical arrangement of the following list<sup>3a</sup> is based on the conventional order which follows Head's *Historia Numorum* but

<sup>3a</sup> A key to abbreviations used in the list follows: ANS, American Numismatic Society; N., Newell; *Berl. Blätt.*, *Berliner Blätter für Münz- Siegel- und Wappenkunde*; BMC, *British Museum Catalogue*; Cohen, H., *Médailles Impériales*; Dattari, G., *Numi Augg. Alexandrini*; Feuardent, F., *Coll. G. Demetrio, Numismatique Egypt. Anc.*, pt. 2; Fzwm, S. W. Grose, *Fitzwilliam Museum, The McClean Coll. of Greek Coins*; Hunt, G. Macdonald, *Catalogue of Greek Coins in the Hunterian Coll.*; *ImhFl*, F. Imhoof-Blumer, *Fluß- und Meergötter auf griechischen und römischen Münzen*; JIAN, *Journal Interna-*

takes into account the fact that we are dealing with the Roman Empire of the third century A.D. That is, the names of the chief districts here indicate Roman provinces at the time.<sup>4</sup>

## THRACE

Aenus*	Strack, p. 200, 406
Augusta Traiana*	ANS(N) <i>BMC NC</i> 1922, p. 159 <i>Imh.Fl.</i>
Hadrianopolis*	ANS(N) <i>BMC SNGCop Hunt Web Imh.Fl.</i>
Pautalia	ANS(N) Ruzicka <i>BMC</i>
Perinthus	ANS(N) <i>BMC Hunt Fzwm SNGCop</i>
Philippopolis	ANS(N) <i>BMC Hunt SNGCop Web NC</i> 1900, p. 8 <i>ZfN</i> , 1904, p. 38; 1929, p. 278 Mouchmoff
Plotinopolis*	<i>SNGCop</i>
Serdica	ANS(N) Ruzicka <i>BMC Hunt Fzwm Web</i> <i>SNGCop NZ</i> 48, 35 <i>Imh.Fl.</i>
Traianopolis*	<i>BMC SNGCop</i>

## MOESIA INFERIOR

Istrus*	Pick, p. 174, 504
Marcianopolis*	Mion S2, p. 80, 152
Nicopolis*	Mion S2, p. 348, 880
Odessus	ANS(N) Pick, p. 565, 2282-6 <i>BMC Hunt SNGCop</i>
Tyra	ANS(N) <i>JIAN</i> 7 (1904), p. 352 <i>SNGCop</i>

## ACHAEA

Argos*	<i>SNGCop</i>
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## PROVINCE OF ASIA

Cyzicus (Mysia)	<i>NC</i> 1913, p. 267
Lampsacus (Mysia) ?*	<i>SNGCop</i>
Pergamum (Mysia)	Mion 2, 611

*tional d'Archéologie Numismatique*; Imhoof-Bl., *KIAM*, F. Imhoof-Blumer, *Kleinasiatische Münzen*; Milne, J. G., *University of Oxford, Ashmolean Museum. Catalogue of Alexandrian Coins*; Mion and Mions, T. Mionnet, *Description de Médailles Antiques and Supplement*; Mouchmoff, see note 38; *NC*, *Numismatic Chronicle*; Pick, B., *Die Antiken Münzen von Dacien und Moesien*; *RN*, *Revue Numismatique*; *RSuisse*, *Revue Suisse de Numismatique*; Ruzicka, see note 38; *SNGCop*, *Sylloge Nummorum Graecorum*, Copenhagen; Strack, M. L., *Die Antiken Münzen von Thrakien*, I, 1; Web, L. Forrer, *The Weber Coll.*; Vogt., J., *Die Alexandrinischen Münzen*; *ZfN*, *Zeitschrift für Numismatik*; Zograph, see note 38.

<sup>4</sup> E.g., Syria Coele and Syria Phoenice, a Severan organization: G. A. Harrer, *Stud. in the Hist. of the Roman Prov. of Syria*, Princeton, 1915, 43-62; 87-90; cf. his article "The Chronology of the Revolt of Pescennius Niger," *JRS* 1920, p. 167, and H. Ingholt, "Deux Inscriptions Bilingues de Palmyre," *Syria* 13 [1932], 278-292.

- Alexandria (Troas)\* ANS(N) *SNGCop* 136?  
 Hypaepa (Lydia) BMC NC 1939, p. 190, 4  
 Maeones (Lydia) Mion S7, p. 369, 240  
 Magnesia (Lydia)\*  
     ad Sipyllum *Web*  
 Philadelphia (Lydia)\* Mion 4, p. 105, 582  
 Sardes (Lydia)\* ANS(N) BMC *RSuisse* 6 (1896), p. 292, 18  
 Tralles (Lydia) *Hunt*  
 Amorium (Phrygia) BMC *Web*  
 Cotiaeum (Phrygia)\* ANS(N) BMC NC 1940, p. 217  
 Laodicea (Phrygia) *ZfN* 20 (1897), 260

## PAMPHYLIA

- Aspendus *JIAN* 6 (1903), 196  
 Side NC 1940, p. 229 Imhoof-Bl., *KIAM*, p. 339, 19a

## CILICIA

- Aegeae\* ANS(N)  
 Anazarbus\* ANS(N) BMC *SNGCop*  
 Irenopolis ANS(N) BMC NC 1940, p. 242  
 Pompeiopolis *ZfN* 10 (1883), 298 PARIS (cast at ANS)  
 Tarsus BMC *Fzwm RN* 1903, 345 *JIAN* 6 (1903), p. 256  
     *ZfN* 24 (1904), p. 84; NC 1900, pp. 100-101; NC  
     1914, pp. 312-13

## SYRIA COELE

- Laodicea ad Mare Cohen 866-7  
 Rhosus *Hunt JIAN* 6 (1903), p. 47

## SYRIA

- Berytus ANS(N) BMC *JIAN* 3 (1900), p. 296

## PHOENICE

- Byblus ANS(N) BMC *Fzwm JIAN* 4 (1901), pp. 52-3

## ARABIA

- Adraa *Berl. Blätt.* 4, 24

## MESOPOTAMIA

- Anthemusia?\* BMC  
 Carrhae? *RSuisse* 14 (1908), p. 131, 243: see discussion there

## EGYPT

- Alexandria ANS(N) Dattari BMC Milne Vogt Feuarent

## II. The Use of the Title in Certain Cities

Now that we have drawn up a general list of cities on whose coinage "Severus" formed a part of Caracalla's name, we may study in some detail the addition of "Severus" to Caracalla's titles on the coins of certain cities where the evidence is more consistently represented than on but one or two examples. In his book on the Syrian tetradrachms, A. R. Bellinger has pointed out that "Severus" was occasionally, though only occasionally, included in Elagabalus' name.<sup>5</sup> This observation becomes more interesting when considered within the framework of the first quarter of the third century than in isolation. The customary absence of "Severus" from Elagabalus' name must have resulted from deliberate policy, for "Severus" was used by Elagabalus' predecessor Macrinus and by his successor Alexander. The general abandonment of this name by Elagabalus may very probably have been part of that side of his reign which marks it a deviation from tradition. For "Severus" was doubtless attached to the names of the successors of Septimius in much the same spirit as "Antoninus" was given to Caracalla as a boy—in order to suggest the continuity of imperial power and the legitimacy of the current regime. Caracalla was not called "Severus" by his father, who was interested in attaching *Antonine* associations to the name of his elder son in order to establish his family in a position of legal succession to Antoninus Pius, M. Aurelius, and Commodus.<sup>6</sup> But after the death of Septimius Severus, Caracalla's name sometimes appeared as *M. Antoninus Aurelius Severus*, especially in Greek, at the imperial mint of Alexandria, as well as on local issues of the East, but also in Latin, though never, so far as I know, on imperial denarii. The inclusion of "Severus" in Caracalla's name must have had, in the minds of officials responsible

<sup>5</sup> *Syrian Tetradrachms of Caracalla and Macrinus*, *Num. Stud.* 3 (Amer. Num. Soc., New York, 1940), p. 53. A Syrian tetradrachm, formerly assigned to Antioch (*BMCSyria*, p. 197, 379), is discussed here and attributed to Edessa and Elagabalus rather than Antioch and Caracalla. For other coins of Elagabalus with "Severus" see Münterberg (above, note 2), p. 32.

<sup>6</sup> *PW*, s.v. *Severus*, col. 1968, *Aurelius* (no. 46), col. 2436. Various explanations for the choice of the name are given by ancient authors, some of a gossipy nature (*SHA Sev.* 10, 3–6; *Geta* 1. 4); cf. Herodian, 3. 10. 5: Σεβήρος Ἀντωνίνον ὠνόμασε, Μάρκου θελήσας αὐτὸν προσηγορίαν φέρειν.

for the practice, a dynastic importance similar to the earlier inclusion of "Antoninus" by Septimius Severus in the name of Caracalla as his heir presumptive, and the use of "Severus" for Caracalla was in a way following the precedent of the Emperor's father in bringing the prestige of a predecessor's name, whether blood relative or not, to the current regime. But there may have been more to the usage than this in Caracalla's case. For if it turns out, as seems to be the case, that the inclusion of "Severus" in Caracalla's name followed the murder of Geta, the need for a closer link with the father by the surviving son is all too apparent, though the nature of the evidence does not suggest initiative on the Emperor's part for the addition of "Severus" to his name. In any case, it would seem certain that Caracalla's successor and the successor of Elagabalus used "Severus" to support the legitimacy of their position. Though neither "Antoninus" nor "Severus" was able to attain more than a foothold as compared with the general permanence of the title "Augustus," both flourished for a period as *cognomina* of emperors who followed the first imperial holder of the name, whether a blood relative of that first imperial holder or not.

What are the documents which include "Severus" in Caracalla's name? Certainly the name appeared in what we may call the fundamental "name-study" documents: inscriptions, Latin and Greek,<sup>7</sup> papyri,<sup>8</sup> and coins. I shall speak chiefly of the evidence of the

<sup>7</sup> The following are examples of inscriptions where "Severus" appeared in Caracalla's name or where, in a few cases, "Severus" has been restored on the plausible grounds of position (between "Aurelius" and "Antoninus") and space: ITALY, Dessau, *ILS*, 2178 (*CIL* 6, 1063), April 11, 212 A.D., after Geta's death and, incidentally Septimius Severus' birthday; ROME, *IGRR* 1, 131 (restored), no date; AFRICA, Dessau, *ILS* 450 (*CIL* 8, 4197), 212 A.D.; 2636 (*CIL* 8, 2494), no date; 4484 (*CIL* 8 14690), no date; 5852 (*CIL* 8, 22500), 213 A.D. or later (cf. *CIL* 22446-7, 22454, restored, 22514); 6866 (*CIL* 8, 19216), 215 A.D.; 6890 (*CIL* 8, 8426), 213 A.D.; *Rev. Arch.* 1934, p. 242, no. 35, restored, 213 A.D. or later; p. 265, no. 132; ACHAEA, Boeotia (Thisbe), *IG* 7, 2239; MOESIA INFERIOR, Nicopolis ad Istrum, *IGRR* 1, 577, 212 or 213 A.D.; 578, restored: Julia Domna and Caracalla, therefore after the death of Geta; 579; ASIA and other provinces in Asia Minor, *IGRR* 4, 686, restored; 1109; 1204, after 213 A.D.; 1205; *IGRR* 3, 397, 433, 645; *Rev. Arch.* 1932, p. 210, no. 49; SYRIA, *IGRR* 3, 1132, 213 A.D.; *SEG* 7, 349, restored; ARABIA, *IGRR* 3, 1239, 1314; EGYPT, see the section on Alexandria below, pp. 88-90.

<sup>8</sup> See the section on Alexandria.

coins. Caracalla's name includes "Severus" on coins of some forty mints from Alexandria in Egypt and the cities of Thrace and Moesia to a few cities in Syria and perhaps beyond. The list with which we began this article may well not be complete, for the evidence is scattered throughout periodical literature and coin cabinets, and this paper claims to be but an introductory survey. The evidence is nevertheless impressive, and the use of "Severus" for Caracalla was clearly not haphazard, as we shall see.

Observation of the coins shows that the use of "Severus" in Caracalla's name is found to date to the end of the reign. The practice began after the death of Septimius Severus, and most instances of the usage, where it is possible to check the date, occurred after Geta's death in February 212 A.D.<sup>9</sup> In fact, I know at present of no unqualified indication that "Severus" was used for Caracalla before Geta's death.<sup>10</sup> It appears, therefore, to be a feature of the Caracalla-Julia Domna rule, that is, of Caracalla's "sole" reign. Several factors indicate that the use of "M. Aurelius Severus Antoninus" drew in part from official channels, though lack of its appearance on the strictly imperial coinage suggests that it could not have been the result of imperial demand. These factors are:

1. the regular and consistent order of its elements wherever it was in use (abbreviations, of course, varying).<sup>11</sup>

<sup>9</sup> Cf. PW s.v. *Aurelius*, no. 46, col. 2436: 212–217 A.D., with few exceptions especially African inscriptions.

<sup>10</sup> See below, note 15.

<sup>11</sup> The following are some exceptions to the usual M. Aurelius Severus Antoninus: Σεουήρος Ἀντωνίνος: *BGU* 1, 266, 10 and 20 (215/16 and 216/17 A.D.); 2, 362, iii–xi, passim (all 213 A.D. or later); *P. Amh.* 2, 122, 2 (211/12, doubtless 212 A.D.); *Archiv f. Papyrusf.* 2, 448, 82 (inscribed altar, July 14, 216); cf. *SB* 1, 5637 (name restored); Ἀντωνείνος (or Ἀντωνίνος) Σεουήρος: Cagnat, *Inscr. Gr.* S. 433, no. 1269 (July 1, 212 A.D.); Dittenberger, *OGIS* 1, 209 (February 9, 215 A.D.); Ἀντωνείνος: *P. Gen.* 1, 6–7 (June 9, 213, vs. those who have regarded the Emperor concerned as Antoninus Pius and the year 158, which for several reasons seems less probably correct): Θεός Σεουήρος Ἀντωνείνος (after C.'s death): *PSI* 5, 464, 5. I regard Θεός Σεουήρος [a correction of Θεός Οὐήρος] in *BGU* 4, 1074 (= *SB* 5225), as referring to Septimius Severus, not Caracalla, as some have thought to be the case, because Latin inscriptions show (see Dessau, *ILS* 3, 1, pp. 293–4) that *after the death of Elagabalus*, Severus Alexander regarded Caracalla as his father, Septimius Severus as his grandfather.



2. the immediate adoption of "Severus" in the same relative position of his name by Macrinus, Caracalla's successor.
3. the invariable use of "Severus" at Alexandria from year K (20), 211/12 A.D., where imperial control was vested in one of the very highest offices of the Empire, the Prefecture of Egypt: at Tarsus, where there were close ties with Caracalla; and at Berytus in Phoenicia where earlier coins show a special relation to Caracalla. Other cities appear to have issued special medallic coins with this name, for some event related to the Emperor, or for cult purposes, or both (Perinthus, Philipopolis, Cyzicus).
4. the appearance of the name in a number of Thracian cities where Severan tradition had early roots and where C. himself sojourned on his way eastward in 214/15 A.D.
5. the fact that, though it was not on the imperial coinage struck at Rome, the name appeared on coins throughout Caracalla's sole reign and found its way even to the obverses of a few<sup>12</sup> *colonial* coins, which of course bore inscriptions in Latin, showing that the name was not suppressed from colonial usage, though colonial legends seem to have kept close to the imperial pattern.

Although there are these indications of some control behind the use of "Severus" for Caracalla, it appears that the practice was permitted in certain places rather than demanded. Where its use was consistent it was undoubtedly official *in that place*. The situation in several places will be indicated here, for it seems wise to omit further mention at present of the majority of mints concerned in order to discuss several mints for which the evidence is now illuminating. The places to be mentioned here are Alexandria, Tarsus, Berytus, and finally, a group, the Thracian mints.

#### Alexandria (PLATE XXII, 16-17)

The coinage of Caracalla at Alexandria after his father's death was struck in the Egyptian years of his reign 20, 21, 22, 23, that is, from

<sup>12</sup> Such as Berytus in Phoenicia (see below) and Laodicea ad Mare in Syria (Cohen, *Méd. Imp.* 866-7).

211/12 A.D. to 214/15 A.D.<sup>13</sup> There are few coins of the year 23, a fact which probably results from cessation of the mint's activities after the city was cruelly punished by the Emperor on his visit in 215.<sup>14</sup> On the coins of Alexandria struck during Severus' lifetime Caracalla is AVTKMAVPHΛANTΩNINOCCEB (PLATE XXII, 16), but during his sole reign the coins of Caracalla, struck in the years mentioned above, include CE (CEVHPOC) between the abbreviated form of "Aurelius" and "Antoninus" (PLATE XXII, 17). Similarly, papyri do not show "Severus" for Caracalla during Severus' lifetime, nor during the joint reign of Caracalla and Geta.<sup>15</sup> But in these documents "Severus" seems to be a regular part of Caracalla's name during his sole reign.<sup>16</sup> Inscriptions of Egypt indicate that "Severus" occurred in Caracalla's name on November 8, 212,<sup>17</sup> April 4, 214,<sup>18</sup> March 11, 216,<sup>19</sup> November 26, 216,<sup>20</sup> i.e., after the death of Geta.

<sup>13</sup> Evidence from various sources listed in J. Vogt, *Die Alexandrinischen Münzen*, 2, pp. 117–19, to which evidence in J. G. Milne's *Catalogue of the Alexandrian Coins in the Ashmolean Museum* (Oxford, 1924) and from coins at the American Numismatic Society conforms.

<sup>14</sup> Cf. Dio, *Epit.* 78, 22, 3: τῶν δὲ χρημάτων τὰ μὲν διηπάροσθη τὰ δὲ διεφθάρη. The scarcity of Caracalla's Alexandrian coins is noted in PW, s.v. *Aurelius* (no. 46), col. 2449. For an imperial coin type recording the visit (TR P XVIII) see *BMCEmp.* 5, p. 452, \*; p. 487, nos. 286–88.

<sup>15</sup> F. Preisigke, *Wörterbuch* 3 (Berlin, 1931), pp. 59–60. Search beyond Preisigke's list confirms this, as it likewise confirms the limitation of the use of "Severus" for Caracalla to the sole reign (e.g., *P. Russ.-Georg.* 3, 25, Aug. 23, 213 A.D.). "Severus" was mistakenly included, however, for *CPR* 1, 239, 12 in Preisigke's list of the names for the brief joint reign of Caracalla and Geta, evidently because Wilcken had thought it should be added (F. Preisigke, *Berichtigungsliste der griechischen Papyrusurkunden aus Aegypten*, Berlin and Leipzig, 1922, p. 122 on *CPR* 239, 12). So far as I know there is no justification for adding "Severus" here. There is no lacuna, and the date is Jan. 30, 212, before Geta's death. A recently published papyrus from the joint reign of Caracalla and Geta (*Hibeh Papyri* 2, p. 138, 216) does not include "Severus" in Caracalla's name, and it is perhaps significant that *Lond.* 1164, b, 1, which does not include "Severus" in Caracalla's name, dates but a few months (April 212) after Geta's murder.

<sup>16</sup> Preisigke, *Wörterbuch*, pp. 60–61. <sup>17</sup> *IGRR* 1, 1064.

<sup>18</sup> *IGRR* 1, 1288: pointed out by W. F. Snyder, "Public Anniversaries in the Roman Empire," *YCS* 7 (1940), p. 263 as an inscription dated on Caracalla's birthday. <sup>19</sup> *IGRR* 1, 1063.

<sup>20</sup> *IGRR* 1, 1136. "Severus" in *IGRR* 1, 1185 (April 15, 210 A.D.) must refer to Septimius Severus, not Caracalla. A milestone providing further Egyptian evidence for Caracalla as "Severus" in the year 216 (July 14) is recorded under Syria in Dittenberger, *OGIS* 2, p. 345, 639.

It seems to be the case, then, that there was strict adherence to the inclusion of Severus' name (CE) on Alexandrian coins of Caracalla after Geta's death and a comparably strict usage in Egypt on papyri and inscriptions. Clearly the universal employment of "Severus" was due here to some central (prefectural?) control. The occurrence of "Severus" for Caracalla in Egypt can be no more accidental than its absence in Rome. The use of CE (CEVHPOC) by the Alexandrian mint was official.

### Tarsus

The consistent use of "Severus" on coins here is comparable to the Alexandrian practice. Tarsus had added "Severiana" to her titles under Caracalla's father,<sup>21</sup> and she became "Antoniniana" under Caracalla himself.<sup>22</sup> The coinage reveals, moreover, a close personal connection with Caracalla. Like Commodus and Severus Alexander he is represented as demiourgos in some of his portraits on the obverses of the coins of Tarsus,<sup>23</sup> and personal types on the reverses suggest that he visited and sacrificed in the city.<sup>24</sup> Tarsus was head of the *koinon* of Cilicia—and was a city surpassed by none in the use of self-glorifying epithets.<sup>25</sup> It is not surprising therefore to find her neighboring cities, whose coinage shared several distinguishing features of the coinage of Tarsus, using "Severus" for Caracalla, too.

### Berytus

(PLATE XX, 1–7; PLATE XXI, 8–15)

The use of "Severus" for Caracalla at Berytus is noteworthy because Berytus was a colony<sup>26</sup> and therefore used Latin legends on its coinage, which might be expected to have followed an imperial

<sup>21</sup> *BMC* pp. 192–3.

<sup>22</sup> *BMC* pp. 195–99.

<sup>23</sup> As *BMC* nos. 177, 182–3, 185 et al.

<sup>24</sup> Such as *BMC* nos. 192–4.

<sup>25</sup> *BMC* p. lxxxviii.

<sup>26</sup> *BMC* p. lii for references to ancient literature; *PW*, s.v. *Berytos*, col. 322. In R. Münsterberg's list of Caracalla's names on colonial coins, "Die Kaiser-namen der römischen Kolonialmünzen," *NZ* 59 (1926), pp. 61–2, "SEV" is listed only for Berytus, "S" for Laodicea in Syria.

pattern. The only other colony reported to have used "Severus" in the name, so far as I know, was Laodicea ad Mare in Syria (Cohen, *Méd. Imp.*, 866–7), the city which supported Severus when Antioch backed Niger. For some reason Berytus reveals on its coinage a special interest in Caracalla from the time he was Caesar. On coins struck early in Severus' reign (196 A.D.) Caracalla's bust is placed facing his father's and the reverses bear the exceptional legend IMP DES,<sup>27</sup> celebrating the son as prospective co-ruler. In 208 A.D. the observance of Caracalla's *decennalia* was recorded on coins struck at Berytus.<sup>28</sup> It appears therefore that crucial points in Caracalla's official life were commemorated by this ancient colony. We may note, moreover, that in the course of Caracalla's sole reign the colony added to its coins a new imperial epithet—ANT—for the first time in years.<sup>29</sup>

All of Caracalla's coins struck at Berytus during his sole reign do not, however, include "Severus" in the Emperor's name. Observation of the coins themselves and of photographs of coins with legible legends leads to the following suggested grouping of the bronze of Caracalla's sole reign:

1. Two denominations (a larger with a temple reverse, a slightly smaller with Poseidon drawn by hippocamps) with the reverse legends COL IVL AVG FEL BER (temple) and COL BER (Poseidon and hippocamps).<sup>30</sup> The obverse legend is IMP MAVR SEV ANTON AVG, its type, a laureate head r.

PLATE XX, 1–4; 5–7.

2. Two denominations of two types, temple and standing Poseidon, with reverse legends COL IVL ANT AVG FEL BER (temple) and COL ANT BER (Poseidon).<sup>31</sup> The obverse legend is IMP M AVREL (or AVRELI) ANT (or AN) AVG, its type a cuirassed bust.

PLATE XXI, 8–10; 11.

<sup>27</sup> *BMC* p. 70, nos. 119–21. Cf. the milestone published by L. Jalabert and R. Mouterde, *Inscr. grecques et latines de la Syrie*, 1 (Paris, 1929), p. 124, where C. is called "Caesar desig[natus]."

<sup>28</sup> *BMC* pp. 70–71; J. Rouvier, *JIAN* 3 (1900), p. 295, no. 560.

<sup>29</sup> PLATE XXI, 8–11. See also *BMC*, pp. 73–4, nos. 141–7; it is to be taken for granted that the *BMC* arrangement is not chronological.

<sup>30</sup> PLATE XX, 1–7. See also *BMC*, pp. 74–5, nos. 148–55 (temple) and p. 75, nos. 156–9 (Poseidon); Rouvier (above, note 28), 563 (SEV omitted in description but easily legible on Pl. 17, 21).

<sup>31</sup> PLATE XXI, 8–11. See also *BMC* pp. 73–4, nos. 143–7 (temple) and 141–2 (Poseidon); Rouvier (above, note 28), 562.

Group 1 has SEV in Caracalla's name; group 2 has not. Group 2 has ANT added to the colony's name; group 1 lacks this epithet.<sup>32</sup> The chronological order of these two groups can, I believe, be determined by studying the relation of these coins to the earlier coins of the reign of Septimius Severus and to the subsequent issues of Macrinus. And it can be shown, moreover, that silver tetradrachms struck in Caracalla's fourth consulship, with no ethnic but without doubt issued at Berytus, contribute substantially to the understanding of the order of the bronze coins with SEV and those without SEV.

Group 1 (the coins with SEV, PLATE XX, 1-7) are thinner and larger coins and their lettering is more sprawling and irregular than the lettering of Group 2. The coins of Group 2 (PLATE XXI, 8-11) are then obviously thicker in flan and smaller. The lettering of this group is closer to "square" lettering, more regular and therefore of less individuality resulting from local practices.

From the character of each group as described above we can safely say that Group 1 resembles the coinage of the reign of Septimius Severus, while Group 2 resembles that of Macrinus. From general appearance, then, Group 1 can be said to come first, and it is for this reason that we have called it "Group 1." There is more than just superficial resemblance, however, which puts Group 1 first and Group 2 second. Observation of die-positions of coins in our collections points to the same resemblances:

Æ of Septimius Severus	↑	
Æ of Julia Domna under SS	↑	
Æ of Caracalla with SEV	↑	
Æ of Julia Domna under Caracalla	↑	but also ↓
Æ of Caracalla without SEV	↑	a few ↓
Æ of Macrinus	↑	a few ↓

Obviously, from similarities of die-position as well as from general appearance, SEV bronze precedes bronze without SEV. SEV

<sup>32</sup> Some of the coins listed by Mionnet, Cohen, and Rouvier (*JIAN* 3, 1900, pp. 295-6, nos. 563-5) do not fit this scheme but the transcription of the name in these catalogues needs confirmation; the photograph on Rouvier's Pl. II, no. 21, for instance, shows that "SEV" was omitted from Caracalla's name in the catalogue. The corpus of Syrian and Phoenician coinages being prepared by M. Henri Seyrig will doubtless provide a check on the readings of C.'s name in the older catalogues. In any case the above grouping is based on known coins.

bronze is in close relation to the coinage of Severus—bronze without SEV is in close relation to the bronze of Macrinus. Now there is, moreover, a link between the bronze of Caracalla without SEV and the silver tetradrachms of Caracalla that have been attributed to Berytus, namely that the portraits of Caracalla on this silver and bronze are very much the same. This was called to our attention by A. R. Bellinger<sup>33</sup> and cannot fail to be evident to anyone seeing the obverses of these issues side by side (cf. nos. 8–11 on PLATE XXI with nos. 12–15), though the bronze has a cuirassed bust and the silver has a laureate head. As for relative position of obverse and reverse dies in the striking of the tetradrachms, these silver coins show die-positions similar to the bronze of Caracalla *without* SEV and the bronze of Macrinus, that is, they usually show the position ↑ but sometimes ↓. Comparison of the bronze with the tetradrachms, then, provides further evidence that the bronze with SEV precedes the bronze without SEV.

Now that we have established the probable order of Caracalla's coins with SEV and his coins lacking it, let us see whether we may not be a little more specific as to date. The silver tetradrachms were struck in or for Caracalla's fourth consulship (VIATOC TO · Δ), which began in 213 A.D.<sup>34</sup> and lasted until the end of the reign. Since these are closely related to Group 2 of the bronze, we must place the bronze at 213 or later. This would put the "SEV" bronze coins before 213 if the tetradrachms were struck at the beginning of the fourth consulship. The tetradrachms could have been struck at any time from January 1, 213 to April 217 (C.'s death), however, since the fourth was Caracalla's last consulship. We have therefore attained thus far only a relative chronology rather than a precise one, namely, that Group 1 preceded Group 2. Yet the tetradrachms could hardly have been struck before 215, when Caracalla was in and out of Antioch several times and must have passed through or near Berytus on his way to Alexandria and back.<sup>35</sup> The bronze lacking SEV and related by portrait type and die-position to the silver may itself provide some-

<sup>33</sup> *Syrian Tetradrachms of Caracalla and Macrinus*, p. 83.

<sup>34</sup> *PW* s.v. *Aurelius* (no. 46), col. 2446.

<sup>35</sup> *Ibid.* col. 2449. Bellinger (above, note 5), p. 6, attributes the need for silver indicated by Caracalla's issues from many Syrian cities to the plans for the Parthian expedition and therefore dates the tetradrachms in 215.

thing specific as to date, for the colony on these pieces is called ANT. Just when did Berytus add *Antoniniana* to its epithets *Julia Augusta Felix*? A town Antoninopolis—about fifty miles from Edessa and later called Maximianopolis—is supposed to have been founded by Caracalla just subsequent to this time,<sup>36</sup> and Berytus probably became *Antoniniana* in 215 when the Emperor was in its vicinity. If so, our Group 2 of the bronze coinage of Caracalla at Berytus dates from that time. The simultaneous addition of ANT to the name of the colony and the dropping of SEV from Caracalla's name on the coins shows that Caracalla was on his own at Berytus rather than thought of as the son of Septimius Severus. The long journey from Rome through the Balkans and Asia Minor to Syria and Egypt was over, a new campaign in the East was at hand, and Caracalla need no longer be "Severus,"—particularly since he was trying to be a second Alexander. It made little difference for the end was not far off. Early in April, 217 A.D. the Emperor was assassinated.

Our tale ends on a note of irony: ANT was henceforth dropped from the coins as an epithet of Berytus, while "Severus" (CE) reappeared on the coins in the name of Caracalla's destroyer, Macrinus,<sup>37</sup> who became Emperor and adopted the name of the *father* of the man he destroyed, supporting in the conventional manner a succession by violence with a nominal claim to legitimacy.

### Thrace and Moesia Inferior

(PLATES XXII and XXIII, 18–26)

#### General

To Münsterberg's list of Thracian cities using "Severus" in Caracalla's name we have added Aenus, Augusta Traiana, Hadrianopolis, Plotinopolis, and Traianopolis. We have also added Istrus, Marcianopolis, Nicopolis in Moesia Inferior and the outpost port town of Tyra on the river of the same name, known today as the Dniester. The

<sup>36</sup> *PW* s.v. *Antoninopolis*, col. 2571; s.v. *Aurelius*, col. 2450. On *Antoniniana* as an epithet of cities under Caracalla see F. W. Drexler, *Caracallas Zug nach dem Orient und der letzte Partherkrieg*, Halle diss. 1880, pp. 31–2.

<sup>37</sup> On "Severus" in Macrinus' name see *BMCEmp.* 5, p. ccxvi.

large numbers of coins from these Balkan towns require direct examination in order to supplement and check on analysis from the catalogues,<sup>38</sup> for here, if anywhere, it appears that "Severus" may occasionally have been applied to Caracalla before the sole reign or even before Septimius' death, unless some of the catalogue descriptions can be proved wrong.<sup>39</sup> Some of these cities strike coins of several denominations with "Severus"—Augusta Traiana, Hadrianopolis, Philippopolis, Serdica, and Traianopolis. "Severus" coins of Pautalia, on the other hand, seem to be of one denomination. For Istrus and Odessus the evidence is perhaps too slight for any decision at present, though they, too, seem to have struck "Severus" on coins of one denomination.

At Pautalia only the "fourers" seem to have "Severus" and may have been struck alongside coins without it, though this may not prove to have been true when the coins are precisely arrayed in a chronological scheme. The small denominations of Pautalia seem to be beardless and therefore early—issues of small denominations for the prospective successor to the Emperor is a familiar convention in mint practice.

<sup>38</sup> Works consulted on the cities of this region, besides general catalogues of coins such as *BMC* and *SNGCopenhagen* were L. Ruzicka, "Die Münzen von Pautalia," *Bull. Inst. Arch. Bulg.* 7 (1932-3), 1-216; "Die Münzen von Serdica," *NZ* 48 (1915), 1-82, by the same author; Att. Tacchella, "Numismatique de Philippopolis," *Rev. Num.* 1902, 174-8; A. de Grand, *Monnaies inéd. ou peu connues de la Moes. Inf. et de la Thrace*, *Rev. Num.* 1900 and 1902; N.A. Mouchmoff, "Les monnaies antiques de Philippopolis," *Annuaire de Biblioth. Nat. et de Musée Nat. de Plovdiv*, 1924, in microfilm and Bulgarian (plates omitted); A. N. Zograph, *Monety Tiry*, Institut Istorii Materialnoi Kultury Akademia Nauk S. S. S. R. (Moscow, 1957).

<sup>39</sup> The cases where C. seems to be "Severus" under his father's regime may result from erroneous or inadequate description in long lists of coins, or from misunderstanding of the author's intention. Only re-examination of the coins with special attention to the kind of portrait with which "Severus" was combined will show what value is to be placed, for instance, on *Rev. Num.* 1900, p. 419, 66: AVT K M AVP CE ANTΩNEINOC combined with the description "tête imberbe" (cf. p. 420, 69) or on the descriptions which have neither "beardless" nor "bearded" (Ruzicka and Mouchmoff), or which simply read "ebenso." Clearly we must be on guard against rejecting possible exceptions as wrong, bearing in mind that even "Sep(timus)" has been reported for Caracalla (*Rev. Arch.* 1934, p. 258, no. 10) and "Se(verus)" for Geta (*Eph. Epigr.* 5, 460).



At the present time the coins of Serdica suggest a clearer chronological scheme for the large denomination: at Serdica most "fourers" seem to have "Severus," and the few "three-ers" listed by Ruzicka have "Severus." "Two-ers" with and without "Severus" occur at Serdica, and since the pieces with the two different obverse legends do not share reverse types (with rare exception), there must be a difference in chronology, those with "Severus" being from the sole reign. Ruzicka dates all "Severus" pieces after the death of Septimius Severus (p. 23), and this may be correct, but indications from other places, as we have seen above, have suggested that the real point of departure for the use of "Severus" by Caracalla was 212 A.D., after the death of Geta, rather than 211, the year of the death of Severus.

Philippopolis struck half a dozen denominations and a series of medallic pieces comparable to the medallic issues of Perinthus. The medallic issues celebrate games called *Alexandria* and are not shared by other members of the dynasty. This alone would place them in Caracalla's sole reign. They were most probably struck during the Emperor's journey to the East when he was reviving the fame of Alexander in preparation for the new Parthian campaign.<sup>40</sup>

### Perinthus

At Perinthus the inclusion of "Severus" in Caracalla's name is of real use, for it enables us to separate chronologically the medallic coinage of Caracalla from the medallic coinage of Septimius Severus

<sup>40</sup> For a full discussion of Caracalla's progress eastward, his deeds, festivals and campaigns, see F. W. Drexler, *Caracallas Zug nach dem Orient und der letzte Partherkrieg* (Halle diss. 1880). On the course of the journey through Thrace and from Nicomedia to Antioch there can be no certainty (Drexler, p. 33, gives possible routes). Coins as well as other evidence, however, show that Caracalla visited or passed through certain cities. Although we cannot assume that the Emperor actually passed through or sojourned in all those cities which placed "Severus" on the coinage, reverse types (in some cases substantiated by literary evidence) indicate that he was in some of them, e.g. Perinthus, Pergamum, Laodicea in Phrygia, Tarsus. The addition to his name, however well intended as a sign of loyalty to the dynasty, could hardly provide much satisfaction to a new "Alexander." Copious material on the Emperor's playing at Alexander can be found on pp. 12-14 of Drexler's *Zug*; for a gold bracteate with a portrait of Alexander and attributed by Mattingly to this period see *BMCEmp.* 5, pp. ccviii and 466, no. 202. See also note 42 below.

and Geta. "Medallic" coins of Septimius Severus and Geta have common reverse types in which Caracalla seems not to have shared. Caracalla's medallic issues are somewhat larger, moreover. The reverses of Septimius and Geta are concerned with mythological subjects, chiefly Hercules, while Caracalla's reverses are chiefly local (temples) and personal (Emperor).<sup>41</sup> The appearance of "Severus" on Caracalla's obverses would certainly seem to place these medallic pieces in his sole reign, and to set them apart as distinct from the medallic issues of his father and brother. Since Caracalla did not share the earlier medallic issues, it is to be assumed that they were struck for a reason especially connected with Geta—perhaps his becoming *Augustus*. In striking the medallic "Severus" issues of Caracalla perhaps Perinthus was making up for an earlier "omission." In any case, the city did handsomely by Caracalla in issuing the medallions under discussion, which were probably produced in connection with the Emperor's passing through Thrace in 214/15 when he made a great show of honoring and reviving the memory of Alexander the Great while preparing for an oriental expedition of his own.<sup>42</sup>

These are the most conspicuous cases known to me of the "Severus" coinage of Caracalla. There would be at present little advantage in discussing the mints where we have but one or two examples of the

<sup>41</sup> Temple and Emperor types not illustrated here. PLATE XXII, 18–19. No. 18 clearly refers to the particular deities of the Severan dynasty, Bacchus and Hercules. No. 19 honors the city's religious institutions, doubtless in their relation to the Emperor. There is a type of Hercules (not represented here), without specific suggestion of the Labors, however, as on the medallic issues of Severus and Geta.

<sup>42</sup> It is against the background of this ambitious "Alexander" phase of Caracalla's reign that the precious Abukir medallions, celebrating Alexander and in some cases bearing remarkably fine portraits of Caracalla, should be studied (cf. H. Dressel, "Fünf Goldmedaillons aus dem Funde von Abukir," *Abhandl. der Königl. Preuss. Akad. der Wiss.*, 1906, pp. 41–2, and references there cited; see also M. Bieber, "The Portraits of Alexander the Great," *Proceedings, Amer. Philosophical Soc.* 93, 1949, p. 426). Some of these medallions are now on exhibition in the Egyptian section of the National Gallery of Art in Washington. Likewise, Caracalla's revival of the cult of Alexander (Herod. 4. 8. 4),—albeit in self-interest if not for an ideal of empire—may explain both his terrible treatment of the resentful and fun-poking Alexandrians, and the ultimate assumption of the name *Alexander*, as well as *Severus*, by the last and only saintly member of the dynasty.

practice of including "Severus" in Caracalla's name. Where the evidence is constant, as at Alexandria and Tarsus, or plentiful if not necessarily constant, as at some of the Thracian cities, or distinct, as at Berytus, where style and design play a part in analyzing evidence not plentiful, the use of the name "Severus" for Caracalla is of interest for chronological arrangement and for studying methods of attaining or holding imperial prestige and assuring stability of the succession. Except at Alexandria, those mints which included "Severus" in Caracalla's name, were probably acting not in accordance with imperial dictation or policy, but in recognition of a convention of continuing in the name of the reigning Emperor some significant portion of his predecessor's name, a practice with plenty of precedent. In this case the name added carried the notion of dynastic as well as of imperial succession. Struck probably in the course of Caracalla's last journey to the East to engage in a new military campaign, these issues may in a sense commemorate the founding of the dynasty, when, with Caracalla in his retinue, Septimius Severus defeated Pescennius Niger in the same part of the Mediterranean world.

ALINE ABACHERLI BOYCE

## THE SYMBOLISM OF THE IMPERIAL COSTUME AS DISPLAYED ON BYZANTINE COINS\*

(SEE PLATES XXIV–XXIX)

A moral and religious crisis is the main characteristic of the fourth and fifth centuries after Christ. There was a tremendous struggle between the old and the new gods which lasted throughout this period. Christianity compromised between various elements derived from Eastern thought and Greek philosophy. Although the amalgamation of these elements was assured in the fourth century, the struggle had not ceased. Yet, despite the struggle an empire was established, the capital of which, adorned with golden palaces and churches, had become the image of the city of God.

This earthly realm that Constantine, the first Christian emperor, the ἱσαπόστολος,<sup>1</sup> had founded became the reflection of the harmony that the Creator had embodied in the universe. The emperor Constantine Porphyrogennitus (913–959) writes: “ὡς ἂν δὲ σαφῇ καὶ εὐδιάγνωστα εἶεν τὰ γεγραμμένα, καὶ υαθωμιλουμένη καὶ ἀπλουστέρα φράσει κεχρήμεθα καὶ λέξεσι ταῖς αὐταῖς καὶ ὀνόμασι τοῖς ἐφ’ ἐκάστῳ πράγματι πάλαι προσαρμοσθεῖσι καὶ λεγομένοις, ὑφ’ ὧν τοῦ Βασιλείου κράτους ῥυθμῶ καὶ τάξει φερομένου, εἰκονίζοιμεν τοῦ δημιουργοῦ τὴν περὶ τόδε τὸ πᾶν ἁρμονίαν καὶ υἴνησιν . . .”<sup>2</sup>

\* I am grateful to the late Prof. A. M. Friend, to Profs. A. Alföldi, Kurt Weitzmann and to Dr. Josefa Weitzmann-Fiedler for criticism and valuable suggestions. My thanks are also offered to the American Numismatic Society, whose grant to attend its 1955 Summer Seminar made possible this study and to my friends and colleagues Miss J. Elfride Bickersteth and Mr. John Schnorberg who kindly improved the English.

<sup>1</sup> Zonaras (ed. Bonn), III, p. 23. For the attempt of Anna Comnena to re-attribute the title of ἱσαπόστολος to Alexius Comnenus see *Alexias*, (ed. Bonn), II, p. 300; cf. *In Alexiadem notae*, p. 685.

<sup>2</sup> *De cerimoniis*, (ed. Bonn), p. 5. This is a further development of ideas which were probably first introduced by Eusebius and which influenced the political thought of the Christian empire. See Norman Baynes, “Eusebius and the Christian Empire,” *Annuaire de l’institut de philologie et d’histoire Orientales*, II (1934), pp. 13–18.

Here in New Rome reigned the elect of the Lord who ruled the world and saved it in the name of the Lord. It was a metaphysical universe that surrounded the elect ruler, in which everything had its symbolical significance. The ruler's divine mission was expressed symbolically. The ceremonies in which he and his court took part, their speeches, gestures, and costumes, all reflected heaven, the future and more beautiful life that is to come.

The imperial costumes, so sacred and indispensable that they were kept in a special place in the palace,<sup>3</sup> expressed the mission of the ruler, his terrestrial role, and his political authority.<sup>4</sup> These ideas were spread by their reflections on his coins, which streamed to the ends of the world, imperishable, minted in discs of gold called *solidi*.<sup>5</sup> The solidus formed a currency which was an embassy, "the messenger of the divine emperor to his people and the ambassador of the chosen people to the other nations of the world,"<sup>6</sup> and a symbol of a faith. The barbarians became acquainted with the Heavenly City through the *bezant*, as they called the solidus, but it was only the believer who might understand the message told by the representation of the sovereign's attire on the coins.

However, we must not think that the imperial message on the coins was understood by everyone or meant the same thing to all. It is very probable that there was an inner circle aware of the imperial symbolism, while an outer circle did not even suspect its existence. There were also the cynics to whom symbolism did not mean anything and the church fathers who were far from being happy about the imperial cult.

The great importance of the coinage for the study and interpretation of ideas has become clear. The evidence of this essay is based primarily on coins and contemporary literary sources, is limited to

<sup>3</sup> J. Ebersolt, *Les arts somptuaires au Byzance* (Paris, 1923), p. 14—hereinafter cited as *Arts*. For the study of Byzantine costume as such see also P. Koukoulès, *Βυζαντινῶν Βίος καὶ Πολιτισμὸς* (Athens, 1949), vol. II, 2, pp. 5-59, cited as *Bios*.

<sup>4</sup> R. S. Lopez, "Silk Industry in the Byzantine Empire," *Speculum*, XX (1945), pp. 1-2.

<sup>5</sup> For the coins as means of imperial propaganda see A. R. Bellinger, "The Coins and Byzantine Imperial Policy," *Speculum*, XXXI (1956), pp. 70-81.

<sup>6</sup> R. S. Lopez, "The Dollar of the Middle Ages," *The Journal of Economic History*, XI (1951), p. 214.

costume, and does not include the *regalia*. We have used the collection of the American Numismatic Society extensively. We have referred to a few works of art in cases we thought needed additional evidence.<sup>7</sup>

On the coins and the medallions of the fourth and fifth centuries, the emperor is represented in the following costumes:

1. The *military costume*, which consists of the cuirass or aegis, and the *paludamentum*, a Latin term for the military cloak of the Roman general; (PLATE XXIV, 1, 2, 4).

2. The *imperial state costume*, which consists of a chlamys with a tunic underneath (PLATE XXIV, 7 and XXVI, 8).

3. The *consular costume*, or the costume of the *trabea triumphalis*. Its main characteristic is the *trabea*, sometimes called *toga picta* or *trabea triumphalis*, a large, purple piece of cloth, traditionally decorated with precious stones, crossed on the breast with one end falling over the left arm (PLATE XXVI, 9, 10). This costume is of the highest rank in the category of costume which Delbrück has called "Das Togascostum."<sup>8</sup> It has also a variety of attributes: the eagle-topped sceptre; the globe, plain, or surmounted by a victory; the laurel wreath; the mappa;<sup>9</sup> or the money bag.<sup>10</sup>

The legends on the coins give the key to the interpretation of the imperial function that these costumes signify. Predominant is the military costume in which the emperor appears as *imperator militans* and *salvator mundi*. He is *militans* in the sense that he fights in the name of Christ to win the world for Christ<sup>11</sup> and *salvator* in the sense that he brings to the world salvation from the tyranny of paganism.<sup>12</sup>

<sup>7</sup> A complete study of the subject which we intend to undertake will include imperial manuscripts as well, and will make possible the study of color symbolism.


<sup>8</sup> R. Delbrück, *Die Consulardiptychen*, (Berlin, 1929), pp. 43, 53 ff.

<sup>9</sup> The mappa is a piece of cloth waved by the consul to give the signal for beginning the games in the Hippodrome.

<sup>10</sup> Jocelyn M. C. Toynbee, *Roman Medallions*, (New York, 1944), p. 176; Delbrück, op. cit., p. 44.

<sup>11</sup> A. Alföldi, *The Conversion of Constantine and Pagan Rome*, (Oxford, 1948), p. 34—hereinafter cited as *Conversion*. Cf. R. Janin, "L'empereur dans l'église Byzantine," *Nouvelle Revue Théologique*, LXXVII (1955), p. 50—hereinafter cited as *N.R.T.* (1955).

<sup>12</sup> Cf. Baynes, op. cit., p. 15.

Various examples exhibit the *imperator militans*; there are medals on the obverse of which is the bust of the emperor in military costume and on the reverse the figure of the emperor standing in the same costume with the legend GLORIA EXERCITVS (PLATE XXIV, 4).<sup>13</sup> Certain medallions issued by Honorius show on the reverse the emperor in military dress standing, holding the labarum with the  and the globe and having a prisoner by his feet. The legend TRIVM-FATOR GENT(IVM)BARB(ARARVM) is revealing (PLATE XXIV, 2).<sup>14</sup>

The idea of the saving emperor *militans* is expressed on medallions the obverse of which represents him in military costume holding a globe with a victory, while the representation on the reverse, which shows the personification of the city of Constantinople and a standing victory that crowns the emperor, is surrounded by the legend SALVS ET SPES REIPUBLICAE (PLATE XXIV, 1).<sup>15</sup>

Further numismatic evidence shows the emperor represented a ruler in the same military costume but with different attributes. An example is the festival coins of Constantine struck in A.D. 315 at Ticinum, on which Constantine not only bears the monogram of Christ on his helmet, but, instead of the sceptre, rests on his shoulder the cross of Christ with the globe on top, thus announcing to the empire by means of coins his calling to rule the world in the name of Christ.<sup>16</sup>

The imperial state costume is closely related to the military costume, especially by the presence of the belt, which denotes military honor (PLATE XXIV, 7 and XXVI, 8).<sup>17</sup> The emperor appears on medallions and coins wearing this state costume, seated on his throne. It is this representation which has been called *majestas Domini*.<sup>18</sup> The functions of the *majestas* are threefold:

1. The emperor is the ruler. As ruler, for instance, Valens is represented on some of his medallions, seated, wearing the imperial

<sup>13</sup> Our example is reproduced from Toynbee, op. cit., pl. XXXII, 3.

<sup>14</sup> This specimen is reproduced from Francesco Gnechi, *Medaglioni Romani*, I (Milan, 1912), pl. XXXVII, 4.

<sup>15</sup> This example is also reproduced from Gnechi, op. cit., I, pl. VII, 16.

<sup>16</sup> Alföldi, *Conversion*, p. 43.

<sup>17</sup> Koukoulès, *Bios*, pp. 51 ff. The examples are reproduced from Gnechi, op. cit., I, pl. XVIII, 1 and from Toynbee, op. cit., pl. XXXIX, 3.

<sup>18</sup> A. Grabar, *L'empereur dans l'art byzantin*, (Paris, 1936), p. 197—hereinafter cited as *Empereur*.

state costume, having a nimbus around his head; the legend, **GLORIA ROMANORVM**, very nearly surrounds him (PLATE XXIV, 7).

2. The emperor is the bearer of happiness. Constans II declares this by using the legend **FELICITAS PERPETVA** around his figure, which appears in the imperial state costume.<sup>19</sup>

3. The emperor is law-giver and saviour.<sup>20</sup> An illuminating example is a medal of Galla Placidia.<sup>21</sup> Surmounted by the legend **SALVS REIPUBLICAE**, she sits on her throne wearing the chlamys and the tunic, on her head a *diadema* with three pointed ray-like ornaments, perhaps a reminiscence of the *corona radiata*.<sup>22</sup> She holds in her right hand the scroll with the law, while her nimbus, majestic pose and footstool give her an air of divinity.

The third costume, which appears on coins and medals of this period, that of the consul, has triumphant implications, since its main characteristic is the *trabea triumphalis* of the Roman consuls.<sup>23</sup> It is connected with the glory and the happiness of the city and its people. On medals and coins the emperor, dressed in the triumphal *trabea*, appears in triumphal compositions receiving the homage of the barbarians or lifting up a personification of the city.<sup>24</sup> According to the legends struck on these coins the emperor appears as the bearer of happiness, the *aeterna gloria* of the senate and the people (PLATE XXVI, 9, 10).<sup>25</sup>

Besides the numismatic evidence, we may advance an additional proof for our interpretation concerning the symbolic significance of the consular costume. This is the Triumphal Arch of Constantine

<sup>19</sup> Gneccchi, op. cit., I, pl. XXX, 2.

<sup>20</sup> Cf. PLATE, XXVI, 8 where *salus* has a military notion.

<sup>21</sup> Gneccchi, op. cit., I, pl. XX, 2.

<sup>22</sup> The *corona radiata* had been used on imperial coins up to the time of Nero exclusively for the decoration of a *divus*. See K. Scott, *The Imperial Cult under the Flavians*, (Berlin, 1936), pp. 32-33.

<sup>23</sup> On the *trabea* see comment in Daremberg-Saglio, *Dictionnaire des antiquités Grecques et Romaines*, vol. V, p. 382; Ebersolt, *Arts*, p. 42; A. Alföldi, "Insignien und Tracht der römischen Kaiser," *Mitteil. des Deutschen Archäol. Inst. Röm.*, L (1935), pp. 34, 64—hereinafter cited as *Insignien*.

<sup>24</sup> Grabar, *Empereur*, pp. 18, 19, n. 1.

<sup>25</sup> The examples are reproduced from Toynbee, op. cit., pl. IX, 1 and from Gneccchi, op. cit., I, pl. V, 9, X, 6. In both examples the emperor holds an eagle-topped sceptre, which, according to Grabar (*Empereur*, p. 13), underlines the exceptional character of the imperial consulate and indicates the perpetual triumph. Cf. Alföldi, *Insignien*, p. 38.



where the emperor is presented in a senatorial garb among the fathers of the city and the dedicatory inscription is to the *liberator urbis*.<sup>26</sup>

The implications of these three kinds of costume intermingle very much and are in a way transitional; for, like the historical period they represent, they mould the periods that are to come. Yet the most important implication is that of the *imperator militans*, which is basically a Roman conception. This expresses very clearly the continuity of the Roman tradition, the attempt to cloak it under Christian symbols and signs, the creeping struggle between the old and the new in a newly converted empire, which undertakes the heavy task of saving and ruling the world *de juris armis*.<sup>27</sup> The famous medallion of Justinian I which was in Paris (Cabinet des Medailles) sums up the various meanings of the costume of these early centuries and its implications: the emperor *militans* is the SALVS ET GLORIA ROMANORVM (PLATE XXV, 5).<sup>28</sup>

In the following centuries the attention of the student of coins is not attracted by the military costume, the story of which we shall no longer follow. Beginning approximately with the reign of Tiberius II in A.D. 578 the costume that becomes more eminent on the coinage is that of the consul. According to the literary sources it was worn by the emperors when they attained the rank of consul, in remembrance of the old Roman tradition.<sup>29</sup> That the coins which represent the emperor as consul were struck and distributed to the people on the occasion of his consulate is an attractive possibility. Wroth is positive that this is so, at least for some of these coins, although there is no evidence to prove it.<sup>30</sup>

<sup>26</sup> Alföldi, *Conversion*, p. 64. Cf. Hans L'Orange, *Der spätantike Bildschmuck des Konstantinsbogens*, (Berlin, 1939), pp. 89 ff. <sup>27</sup> Cf. Grabar, *Empereur*, p. 194.

<sup>28</sup> The specimen is reproduced from Toynbee, op. cit., pl. XLIX, 3. This theme is not limited to the coinage but appears elsewhere also: cf. the Barberini ivory (C. Morey, *Early Christian Art*, Princeton, 1953, pp. 91 ff., fig. 84); and the silver disc found at Kertch, (Ebersolt, *Arts*, fig. 14).

<sup>29</sup> For the references see Ebersolt, *Arts*, p. 42.

<sup>30</sup> W. Wroth, *Catalogue of the Imperial Byzantine Coins in the British Museum*, I (London, 1908), p. xx—hereinafter cited as *C.B.M.* For the coins that represent the emperor as consul see A. de Barthelemy, "Sur les monnaies consulaires frappées pendant le Bas-empire," *Revue Numismatique*, II (1857), pp. 247–263; P. Grierson, "Dated Solidi of Maurice, Phocas, and Heraclius," *Num. Chron.* X (1950), pp. 49–70; *id.* "The Consular Coinage of 'Heraclius' . . ." *ibid.*, pp. 71–93.

We have already noticed that the emperor, according to the legends struck on coins and medals of the early centuries, appears in the consular costume as *salus reipublicae* or *salus urbis*, and that these ideas were connected with the military conception of the emperor. Now, however, there is a tendency to distinguish the imperial qualities and to emphasize the supreme role of the emperor as the vicar of Christ. In other words, it is the emperor's priestly function that becomes of great importance.

This tendency is reflected on the coinage. It can already be seen on certain solidi of Tiberius II (578–582), on the obverse of which the emperor appears as consul (PLATE XXVII, 12);<sup>31</sup> his Roman eagle-headed sceptre is surmounted by the cross, while on the reverse of the coin there is a replica of the Golgotha cross, elevated in the Constantinian forum in Constantinople.<sup>32</sup> It was at the foot of this Constantinian cross that the emperor stood during the celebration of his triumph<sup>33</sup>, which makes us think that the *trabea* of the obverse still has its triumphal implications, implied also by the legends of the reverse VICTORIA AVGGG.

However, the final step towards a clear ideological development of the consular costume is taken by Justinian II in his first reign (685 to 695). For the first time, there appears on the reverse of Byzantine coins instead of the cross, the bust of Christ himself (PLATE XXVII, 14, 15).<sup>35</sup> On the obverse, the emperor wears the costume that we have called consular. Yet a closer look and a comparison with previous representations on the coins prove that a change has taken place (PLATE XXVI, 11 and XXVII, 13). It is clear that the Roman *trabea*

<sup>31</sup> Cf. also PLATE XXVI, 11.

<sup>32</sup> *De cerimoniis*, pp. 609–610.

<sup>33</sup> Grabar, *Empereur*, p. 166, n. 1.

<sup>34</sup> Cf. also PLATE XXVII, 13; the standing victory of the reverse still plays the theme of triumph.

<sup>35</sup> The figure of Christ had already appeared on a special coin issued ca. 450 to commemorate the marriage of the empress Pulcheria to Marcian. According to the chroniclers this marriage was a spiritual one and the figure of Christ was to make clear that this bond was in spirit and not in flesh. For a detailed discussion see George Macdonald, *Coin Types, Their Origin and Development*, (Glasgow, 1905), pp. 233 ff., pl. IX, 7, 8, and H. Dressel, "Fortsetzung des Erwerbungsberichts," *ZfN*, XXI (1898), pp. 247 ff. I owe this piece of information to the late Prof. A. M. Friend.

has become the Byzantine *loros*:<sup>36</sup> a long strip of jewel-studded fabric slung twice around the body, the part crossing the waist usually gathered up over the left arm of the emperor.<sup>37</sup> The emperor holds the cross instead of the consular sceptre, the cross which declares the victory of Christ over death.<sup>38</sup> In an article on a certain coin-specimen of Justinian II Bellinger remarks that Justinian presents on this specimen a kind of equal partnership, the emperor appearing both as protector of the cross and as protected by it.<sup>39</sup> This equal partnership means that the emperor appears as the representative of Christ on earth, as His vicar; the legends of both sides make this idea clear: DN IVSTINIANVS SERVVS CHRISTI, in other words the one appointed to be so by Christ; REX REGNANTIVM, Christ who establishes the relationship of the heavenly and the earthly hierarchies with the emperor standing in between, as vicar of the Logos.<sup>40</sup> Hence, the attire in which the emperor appears in this coin (the consular costume) has changed its meaning, for it is no longer the costume of the emperor-consul, but of the emperor-vicar.

Another issue of the same emperor, during his second reign (705 to 711), points in the same direction (PLATE XXVII, 16). Here the emperor in half length, clad in the *loros*, holds the cross, symbol of salvation, while his left hand has a *globus crucifer* with the inscription PAX to indicate that the bearer brings peace on earth, after the manner of his heavenly archetype.<sup>41</sup>

<sup>36</sup> The term *loros*, to the best of our knowledge, is to be found for the first time in Lydus, *De magistratibus reipublicae Romanae*, II, (ed. Wunsch), p. 55; (ed. Bonn), p. 166. Cf. Delbrück, op. cit., p. 53, n. 157.

<sup>37</sup> Cf. H. Peirce and R. Tyler, "Three Byzantine Works of Art," *Dumbarton Oaks Papers*, II (1941), pp. 1 ff. and K. Weitzmann's review, *Art Bulletin*, XXV (1943), p. 163, in which he discusses the correct way of wearing the *loros*. Also, E. Condurachi, "L'origine et l'évolution du *loros* imperial," *Arta și Archeol.*, Jasy (1935-36), pp. 35-45, not accessible to us. For the development of the *loros* in the west see A. Hofmeister, "Von der TRABEA TRIUMPHALIS des römischen Kaisers über das Byzant. LORUM zur STOLA der abendländischen Herrscher," in *Herrschaftszeichen und Staatssymbolik*, ed. P. E. Schramm (Stuttgart, 1954), pp. 25 ff.

<sup>38</sup> J. Ebersolt, *Constantinople, Mélanges d'histoire et d'archéologie*, (Paris, 1951), p. 66—hereinafter cited as *Constantinople*.

<sup>39</sup> A. Bellinger, "The Gold Coins of Justinian," *Archaeology*, III (1950), p. 109.

<sup>40</sup> Cf. Grabar, *Empereur*, pp. 19-20.

<sup>41</sup> It should be noted that the idea of the emperor as peace-bearer is an old Roman tradition and that, therefore, in this sense Justinian places himself within that tradition.

The ideological change of the meaning of the consular costume is pointed out also by literary evidence, for it is not without significance that, while such changes are observed on the coins, the texts inform us that in the eighth century the feast of the consulate was celebrated not on the first of January, as in the sixth century, but on Easter day.<sup>42</sup> Why did such a change take place and why did the emperor choose the day of Christ's resurrection as the day of his appearance in the old consular costume? Constantine Porphyrogennitus gives us later a clear and definite answer; this very coin that we have discussed sounds a few introductory notes to the theme of the metamorphosis through *χάριτι*, a theme which we are going to discuss later.

The iconoclastic emperors wished to impose their power on the church, and although they declared that they were apostles of Christ,<sup>43</sup> they wished to bring Christ once again on earth in their own flesh. They never admitted these things, but they suggested them on their coins. It is this inconsistency between imperial deeds and imperial words that suggests a creeping struggle between emperor and Church about the throne-sharing with God.

The portrait of Christ is eliminated from the coins and its place taken by the imperial portrait; both sides of the coins are occupied by it (PLATE XXVII, 17–20).<sup>44</sup> Those who had zealously persecuted the icons of Christ and of the saints replaced them with their own portraits.<sup>45</sup> The emperor, by removing the representation of the second member of the Trinity, enlarges the area of his rule and increases his own authority to the exclusion of the Church. The imperial costume now on the coinage displays, in most cases, two distinct qualities of the emperor: his political and his spiritual authority. The

<sup>42</sup> Theophanes, *Chronographia*, I (ed. DeBoor), pp. 174, 444, 474. Ebersolt, *Constantinople*, p. 65. Louis Bréhier, *Les institutions de l'empire byzantin* (Paris, 1949), p. 105 (here fuller bibliography on the problem of the consulate).

<sup>43</sup> Leo III who eliminated the portrait of Christ from his coins, wrote to the Pope: "I am emperor and priest," and he claimed to be the deputy whom God "has ordered to feed his flock, like Peter, prince of the Apostles." Mansi, *Concilia*, XII, p. 976. Cf. Janin, *N.R.T.* (1955), p. 53.

<sup>44</sup> Cf. Lucas Koch, "Christusbild – Kaiserbild," *Benediktinische Monatsschrift*, XXI (1939), pp. 85 ff.; G. Ladner, "Origin and Significance of the Iconoclastic Controversy," *Mediaeval Studies*, II (1940), pp. 144 ff.

<sup>45</sup> Grabar, *Empereur*, pp. 167, 168.

first is expressed by the chlamys and the second by the *loros* (PLATE XXVII, 17–20, 22).<sup>46</sup>

However, parallel to this crescendo, some types of coins play the music of the imperial theology in a lower key. Artavasdus (742? to 744?) holds the cross on his breast as if to indicate that it dwells in his heart. Moreover, instead of displaying his spiritual qualities by presenting himself dressed in the *loros*, he prefers the cross of the Constantinian forum with the Constantinian legend IHSVS XRISTVS NICA (PLATE XXVII, 21).<sup>47</sup>

Theophilus (829–842) and Michael III (842–867) eliminated their portraits from one side of some of their coins. The former substituted the cross and the latter a portrait of Christ.<sup>48</sup> Theophilus in an issue of A.D. 829/832 (PLATE XXVIII, 23) displays his spiritual authority by the *loros*, while the legend that surmounts the cross of the reverse, KYRIE BOHΘH TO SO DOVLO, marks a retreat from the original position of the iconoclasts and keeps the authority of the emperor within the limits of the vicariate, as defined in the early coins of Justinian II.

In another of his issues, Theophilus appears holding the Constantinian labarum, then combining the priestly vestment with the military fan-shape *toufa*<sup>49</sup> and the legend of the reverse ΘΕΟΦΙΛΗ ΑΥΓΟΥΣΤΗΝ ΝΙΚΑΣ (PLATE XXVIII, 24).

This combination and the nostalgia for the Constantinian *symbola*, apparent on these coins, have to be interpreted in the light of the struggle between the Church and the emperor. They express an attempt on the part of the emperor to keep both roles, that of the *rex* and that of the *sacerdos*, by turning back to the Constantinian tradition. Nevertheless, these two qualities became separated in the famous *ἐπιναγωγική*, a law compiled probably under Basil I, the founder of the Macedonian dynasty, which did not recognize the

<sup>46</sup> For the scroll which the emperor holds in his hands (PLATE XXVII, 14, 15, 17, 20), and which was called by the Byzantines *akakia* see *infra*, n. 75.

<sup>47</sup> See an excellent discussion of this specimen in Aline A. Boyce, "A Solidus of Artavasdus," *ANSMN*, V (1952), pp. 89–102.

<sup>48</sup> See Wroth, *C.B.M.*, II, pl. XLIX, 11, 16–18.

<sup>49</sup> It seems this headdress is that which Zonaras speaks of; hence we use his term. See I. Reiske, *Commentarii ad Constant. Porph. de cerim.*, p. 592.

fusion of the two roles in one person, that is to say, the emperor.<sup>50</sup> This development should not be taken as a defeat of the emperor, because the separation of rights is not complete. The rights of the emperor and patriarch interpenetrate. The emperor can exercise his authority in the Church and the patriarch in the state. Yet the real master is the *basileus*, whose rule is manifested more in dogmatic questions than in those of state discipline.<sup>51</sup>

The sharing of rights is not limited to emperor and patriarch but extends to emperor and God. Basil I (867–886) presents himself on one side of his coins, while giving the other side to the enthroned Christ (PLATE XXVIII, 25), or to a bust of the *Pantocrator*, as Constantine VII (913–959) does on some of his coins (PLATE XXVIII, 28). One image is of the god of the earth, the “beloved” of the heavenly God.<sup>52</sup> They coexist. Who can prove which is the obverse of the coin and which the reverse? Was Christ to be first or the emperor? We usually accept the emperor’s side as obverse but we cannot prove which is meant to be the more important side.

The costume now works out a symbolic transfiguration of the emperor into a god-like image, reflected on the coins where the appearance of the emperor in two different attires has two different connotations.

The chlamys, the costume of the ruler *par excellence*, attains a deeper meaning. Our literary evidence shows that the chlamys, given to the emperor at the time of his coronation, is the costume that includes symbolically the attributes of the anointed and elect one: the divine power, the authority to rule the world, the right to be worshipped.

When the emperors celebrated the memory of St. Constantine they went to the church of the Holy Apostles riding on horseback, dressed in the military *skaramagia*, and holding a sword. In the narthex of the

<sup>50</sup> See A. Vasiliev, *History of the Byzantine Empire* <sup>2</sup>, (Madison, 1952), p. 341; Grabar, *Empereur*, pp. 175–176; Georg Ostrogorsky, *Geschichte des byzantinischen Staates*, (München, 1952), p. 194, n. 1 (here fuller bibliography).

<sup>51</sup> For a discussion of the relation of the emperor and patriarch and the meaning of the *epanagogé*, see A. Michel, “Die Kaisermacht in der Ostkirche,” *Ostkirchl. Studien*, IV (1955), p. 221; V (1956), pp. 1–32; J. Scharf, “Photios und die Epanagoge,” *Byzantinische Zeitschrift*, XIL (1956), pp. 384–400.

<sup>52</sup> See *De Administrando Imperio*, ed. G. Moravcsik (Budapest, 1949), p. 46; (ed. Bonn), pp. 66, 67.

church they changed their military costume for the chlamys before entering the *naos* proper.<sup>53</sup> Thus the costume transformed the commander of the army into the sovereign of the world.

On the first of January the emperor sits on the throne of the Magnaura palace dressed in the chlamys, while the ceremony of the *proskynesis* takes place.<sup>54</sup> The chlamys is the costume that the *basileus* wears when he is worshipped.

It is the same chlamys that the emperor wears when he steps on the head of the defeated in the Forum. At that very moment the choir sings: "Who is so great as God as our God? Thou art the God Who works wonders," and the patriarch responds, "because Thou art a merciful God and lovest man."<sup>55</sup> One wonders whether these words are addressed to the *autocrator* or to the *Pantocrator*. It seems that they are addressed to both, since the two figures reflect each other.<sup>56</sup>

Even when the emperor blesses the people, the blessing that he bestows upon them comes from God symbolically through the chlamys. For, when the emperor blesses his people, he does not do it with his hand but with the edge of the chlamys: "Καὶ εὐθέως κατασχὼν ὁ τῆς καταστάσεως τὸ ἄκρον τῆς χλανίδος τοῦ Βασιλέως καὶ ποιήσας ῥωσθελίον, ἐπιδίδωσι τῷ βασιλεῖ, ὅπως ἀνελθὼν ἐν τῷ σέντλῳ, σφραγίσῃ μετ' αὐτοῦ τὸν λαὸν κατὰ συνήθειαν."<sup>57</sup> It is the chlamys that Byzantine art uses as a symbolical representation of God the Father, Who was not representable.<sup>58</sup>

<sup>53</sup> *De cerimoniis*, pp. 532 ff.

<sup>54</sup> *Ibid.*, pp. 137, 139.

<sup>55</sup> *Ibid.*, p. 611.

<sup>56</sup> Cf. *ibid.*, p. 519, where it is stated that the Pantocrator was represented above the imperial throne which was in the eastern apse of the chrysotriclinium. Also *ibid.*, p. 521, where it is stated that the throne of the emperor is shared with Christ. The right eastern part of the throne is that of Christ; the left is that of the emperor. On weekdays the emperor occupies the right part, though on Sundays he leaves it to Christ, so that he visibly shares the throne with the *Pantocrator*. This passage has been already pointed out by E. Kantorowicz, "Ivories and Litanies," *Journal of the Warburg and Courtauld Inst.*, V (1942), p. 73, n. 3.

<sup>57</sup> *De cerimoniis*, p. 306.

<sup>58</sup> Cf. the mosaics of the destroyed church of the Koimesis at Nicaea, where we have a pictorial explanation of the Trinity done by symbols, of which the chlamys symbolizes the father who begets. See O. Wulff *Die Koimesiskirche in Nicäa*, (Berlin, 1903), pp. 211 ff.; T. Schmit, *Die Koimesiskirche von Nikäa*, (Berlin, 1927), pp. 21 ff., pl. XII. For details on the dogma of the Trinity see G. Prestige, *God in Patristic Thought*, (London, 1952).

Besides those coins that represent the emperor in the chlamys, a large number represent the emperor dressed in the *loros*, which transmutes him into Christ (PLATE XXVIII, 28, 30–33). Texts and coins both supply us with much evidence. Constantine Porphyrogennitus says that on Easter day the emperor appears dressed in the *loros*, accompanied by twelve dignitaries dressed in the same costume. The *loros* symbolizes the burial of Christ; its gold the splendor of the resurrection. The twelve patricians symbolically act as the twelve Apostles while the emperor acts as Christ. Here are his exact words: “Τὸ μὲν περιβεβλησθαι λώρους τοὺς μαγίστρους καὶ πατρικίους ἐν τῇ ἑορτασίμῳ ἡμέρᾳ τῆς Ἀναστάσεως τοῦ Χριστοῦ τοῦ Θεοῦ ἡμῶν εἰς τύπον ἡγούμεθα τοῦ ἐνταφιασμοῦ αὐτοῦ. Τὸ δὲ κεχρυσῶσθαι αὐτοὺς εἰς ταύτης λαμπρότητα, ἡλιοβολουμένους ἐξ ἡλίου Χριστοῦ αὐτοῦ τῇ ἐγέρσει· αὐτοὺς τε τοὺς μαγίστρους καὶ πατρικίους ἐν τύπῳ χρηματίζειν τῶν Ἀποστόλων, τὸν τε χρηστὸν βασιλέα κατὰ τὸ ἐφικτὸν ἀναλογοῦντα Θεῷ.”<sup>59</sup>

As Christ is the founder of the Church, so the emperor, His visible manifestation, dressed in the *loros*, is the inaugurator of the earthly *domus Dei*.<sup>60</sup>

On a number of coins the emperor appears dressed in the *loros* and crowned by Christ (PLATE XXVIII, 32). Here a metaphysical act of coronation takes place during which the supernatural powers of Christ are bestowed upon the emperor.<sup>61</sup> The higher legitimacy and the transmission of the supernatural power proceed and descend directly from the Logos upon the emperor's head, whether it is Christ Who crowns him or a representative of the celestial hierarchy (in most cases the Virgin, as on the solidi of the emperor John Tzimiskes, 969–976, PLATE XXVIII, 31). The hand of God, which had not appeared on the coins since the time of Constantine V (741–775), comes back in the symbolic representations of the transmission of virtues and

<sup>59</sup> *De Cerimoniis*, pp. 638, 765, 766. Ebersolt, *Arts*, pp. 65, 73 ff.

<sup>60</sup> Leo Grammaticus, *Chronographia*, (ed. Bonn), p. 258.

<sup>61</sup> For the divine origin of the imperial powers see Rudolphe Guiland, “Le droit divin au Byzance,” *Commentarii Societatis Philologiae Polonorum EOS*, XLII (1947), pp. 142–168. In a Byzantine gospel of 1128, now in the Vatican library, cod. Urb. gr. 2, (C. Stornajolo, *Le miniature delle omilie di Giacomo monaco e dell' evangelario Gr. Urbinato*, Rome, 1910, pl. 83), one can see these powers clearly personified as Charity and Justice on either side of Christ, Who crowns John and Alexius Comnenus.



powers of the Logos. It is this hand which makes clear that although the emperor is represented in the *loros* as the visible manifestation of Christ, God has not disappeared: there is still the distinction of heaven and earth. This idea is also suggested by legends such as EN X(RIST)O AVTOCRAT(OR) or ΘΕΟΤΟCE ΒΟΗΘΙ on some issues (PLATE XXVIII, 30, 31). It is the Grace of God that works out the emperor's transmutation. The *basileus* is "ἐπιγίαιος θεός" through "χάριτι."<sup>62</sup>

Yet there are some issues which suggest that this distinction of heaven and earth has to be understood as a co-regency of celestial and terrestrial hierarchy. For instance, on one very important coin of the empress Theodora (1055–1056) both she, the queen of earth, dressed in the *loros* and the so-called *thorakion*,<sup>63</sup> and the Virgin, the Queen of heaven, grasp on equal terms the labarum with the Christogram (PLATE XXVIII, 33). So the *basilissa* of earth stands reflecting not only the ceremonial life of the Byzantine court but at the same time the life that is to come, when in heaven she would reign with the celestial Lord as she did on earth.

The mystical and symbolical transmutation of the emperor into the Logos by means of the *loros* is suggested by an important series of silver coins of Romanns I (920–944), Nicephorus Phocas (963–969), and John Tzimiskes (969–976), of which the American Numismatic Society has a very beautiful example (PLATE XXVIII, 30). On one side of these coins a cross with the bust of the emperor in its center is represented. By placing the emperor in the center, the cross is changed into a reliquary.<sup>64</sup> There is little doubt that this is the result of the influence of Constantine Porphyrogennitus and his interest in the cult of relics. Yet it makes a great difference when the bust of the emperor is placed where the relics of the true cross of Christ belong.

<sup>62</sup> See E. Kantorowicz, "Deus per Naturam, Deus per Gratiam," *Harvard Theological Review*, XLV (1952), pp. 253 ff.

<sup>63</sup> For the *thorakion* see Maria Soteriou, "Τὸ λεγόμενον Θωράκιον τῆς γυναικίαις αὐτοκρατορικῆς στολῆς," Ἑπετηρίς Ἑταιρείας Βυζαντινῶν Σπουδῶν, XXIII (1953), pp. 524–530. Mrs. Soteriou has proved quite convincingly that the so-called *thorakion* is nothing else but part of the *loros* of the empress.

<sup>64</sup> See G. Schlumberger, *Un empereur byzantin, au dixième siècle*, (Paris, 1890), p. 494; Boyce *ANSMN*, V (1952), p. 92, n. 9. The same type is also repeated in a silver coin of the emperor Alexander (912–913). See N. A. Musmov, "Une monnaie d'argent de l'empereur Alexandre," *Byzantion*, VI (1931), pp. 99–100.

Deer, who in an admirable article studied the subject of the imperial portrait in the cross, suggests that the image of the emperor was placed on the cross so that the emperor might seek divine protection for himself. In other words, the emperor's image on the cross represents a plea for protection and not a rivalry between the emperor and Christ.<sup>65</sup> In our opinion another possibility is open. True, the emperor is aware of the fact that he is not "ἄγέννητος," and that the distinction between heaven and earth exists, as we have already pointed out. At the same time it is true that the emperor possesses a god-like position on earth, as literature and coins already mentioned show,<sup>66</sup> and that *Pantocrator* and emperor reflect each other. This is something that cannot be denied and, as we believe, emphasizes what chronological considerations fail to emphasize, i.e., the appearance of the emperor like unto Christ. Let us assume, however, that the image of the emperor in the center of the cross is only a plea for protection. If we take into consideration what Constantine Porphyrogenitus says about the *loros*, how shall we explain the emperor's preference for being represented in the heart of the cross of those specific coins of the Macedonian dynasty, dressed in the *clapotos loros*?<sup>67</sup> If it is not mere coincidence that this preference is expressed not only on the coins under discussion but in other reliquary crosses of that period as well,<sup>68</sup> then, in our opinion, it is possible that these coins point to something deeper than a plea for protection: a symbolic metamorphosis of the emperor like unto Christ, in Whose name he reigned and to Whom the emperor had provided bodily existence in his own flesh.

The imperial exaltation with its fluctuations was not to be at the same level for long. The conception of mimesis enters a new phase with Alexius I (1081–1118). The tone of the imperial melody is lower,

<sup>65</sup> Josef Deer, "Das Kaiserbild im Kreuz," *Schweizer Beiträge zur allgemeinen Geschichte*, XIII (1955), pp. 48–110.

<sup>66</sup> For epithets given to the emperor see Guiland, op. cit., p. 153.

<sup>67</sup> The textiles that had either woven or sewn golden *clavi*, i.e. small golden squares in the shape of a nail-head, were called *clapota*. See Koukoulès, *Bios*, p. 43.

<sup>68</sup> Cf. an enameled triptych of the eleventh century in the G. Pierpont Morgan collection, (O. Dalton, *Byzantine Art and Archaeology*, Oxford, 1911, p. 521), and the reliquary of Gran (C. Diehl, *Manuel d'art byzantin*, Paris, 1926, p. 692).

softer, more human. The literary sources, mainly Pseudo-Codinus and Symeon of Thessalonica, are late but the coins prove that new directions begin with Alexius I, and last down to the fall of the city.

The emperor is still the commander of the army, the benefactor and the providential one, the *dominus mundi*, the holy one anointed by Christ Who prepares him to be victorious.<sup>69</sup>

Alexius I represented on his coins wearing, besides the chlamys, a long robe, called *sakkos* (PLATE XXIX, 34, 35), which according to Pseudo-Codinus, is black and symbolizes the mystery of the royalty.<sup>70</sup> The belt, which we have not seen since the first period, appears here again.<sup>71</sup> It is no longer called "ζώνη" but "διάδημα." It denotes military honor and testifies that the emperor is a soldier.<sup>72</sup>

The emperor wears the *loros* in the coronation scene (PLATE XXIX, 36). Whether he was invested with it during the ceremony of the anointing we cannot tell, because the sources are not clear about this point and, therefore, we cannot relate the language of imagery to the language of real facts. Symeon of Thessalonica speaks of a sacred cloth: "ἐπάνω τῶν βασιλείων καὶ ἱερὸν ἔνδυμα περιβάλλεται, ὃ δεσποτάτου ἐστί, τὴν εὐταξίαν σημαῖνον καὶ τὴν εὐλάβειαν, ἣν ὠφεῖλει τῇ ἐκκλησίᾳ ποιεῖν καὶ τὴν εἰρήνην."<sup>73</sup> We have no reasons to relate this to the *loros*. The importance, however, of this passage lies in the fact that it supplies us with another piece of evidence of that softer and more human tone of the imperial theology<sup>74</sup> expressed by the symbolism of the costume.<sup>75</sup>

<sup>69</sup> "δεσπότης, κύριος καὶ εὐεργέτης καὶ προνοητὴς καταστάς." See Symeon of Thessalonica, *De Sacro Templo*, P.G., p.155, cols. 352, 353. Pseudo-Codinus, *De Offic.* (ed. Bonn), pp. 193, 247. For details of the investiture of the emperor see Ebersolt, *Constantinople*, pp. 20ff.

<sup>70</sup> Pseudo-Codinus, op. cit., pp. 50-51.

<sup>71</sup> See *supra*, p. 5.

<sup>72</sup> Pseudo-Codinus, loc. cit.

<sup>73</sup> Symeon, op. cit., col. 356.

<sup>74</sup> It should be noted that *depotatos* is the lowest ecclesiastical rank; cf. K. Ralles, "Περὶ τῶν δεποτάτων," Πρακτικά Ἀκαδημίας Ἀθηνῶν, XI(1936), pp. 28-29. Therefore, the emperor wears the costume of the last of the ecclesiastical *officia*. This does not, however, imply, as maintained by some scholars, that the emperor attains the rank of the *depotatos*. Rather, it must be interpreted as a symbolic act of humility. See discussion of the problem in A. Gasquet, *De l'autorité impériale en matière religieuse à Byzance* (Paris, 1879), pp. 44-65; L. Bréhier, "ἱερεὺς-βασιλεὺς," *Mémorial L. Petit* (*Archives de l'Orient Chrétien*).

The *loros* in its last development looks like a square piece of cloth (PLATE XXIX, 38, 39). Manuel I (1143–1180) in some of his issues, while dressed in the *loros*, holds the sword (PLATE XXIX, 39), which symbolizes “ἐξουσιαστικόν” and stresses his military functions.<sup>76</sup> With this we sound the last notes of the imperial theme which opens and closes with the costume of the *imperator militans*. It is to this costume that the Palaeologans turned. The ancient theme of the emperor on horseback, after having disappeared in the sixth century, is played again.<sup>77</sup>

Ideologically, the opening and the closing chapters of the story of the imperial costume, as it appears on the coins, are almost similar in so far as the story opens and closes with the military costume. Yet there are differences.

In the opening chapter, a period which runs approximately from Constantine’s conversion (A.D. 314) to the death of Justin II (A.D.

*tien I*), Bucharest, 1948, pp. 41–45; Catherine Christofilopoulos, ‘Εκλογή, Ἀναγόρευσις καὶ Στέψις τοῦ Βυζαντινοῦ Αὐτοκράτορος (Athens, 1956), p. 220.

<sup>76</sup> The regalia, which have not been included in this study, point in the same direction. The *akakia* for instance, that Manuel I holds in his hands (PLATE XXIX, 37) is not like the one noted before (*supra*, n. 46). This alteration, we believe, is due to a change in significance. Previously, the *akakia* stood for the gospel and the new love revealed in it (see *De cerimoniis* pp. 243, 443; Reiske, *Comm.*, p. 663; Ebersolt, *Constantinople*, p. 66). Now it means something different. It is no longer a scroll but, as Pseudo-Codinus says (pp. 50–51), has become a bag, tied with a handkerchief, filled with earth. It symbolizes that the emperor is humble because of his mortality, and that he does not exalt himself. (“Τὸν βασιλέα ταπεινὸν εἶναι ὡς θνητὸν καὶ μὴ ἐπαίρεσθαι.”): the handkerchief symbolizes the instability of royalty and its passing from one to another (“καὶ τὸ μεταβαῖνον ἀφ’ ἑτέρου εἰς ἕτερον.”). Also Symeon (*op. cit.*, col. 356), speaking of the rod which the emperor receives during the ceremony of the anointment, says: “καὶ ἔτι ράβδον λαμβάνει, οὐ βαρεῖαν τινὰ καὶ σκληρὰν ἀλλ’ ἑλαφρὰν τε καὶ μαλακὴν, διὰ τὸ παιδευτικὸν ἐν πραότητι καὶ μὴ ὀργίλον καὶ φθαρτικόν, μηδὲ συντρίβην καὶ ἀφανίζον.” Cf. PLATE XXIX, 35.

<sup>77</sup> Pseudo-Codinus, *loc. cit.*

<sup>77</sup> Wroth, *C.B.M.*, II, pl. LXXVII, 3. Grabar, *Empereur*, p. 178. See also coins of the empire of Trebizond, J. Sabatier, *Description générale des monnaies byzantines*, II (Paris, 1862), pls. LXVIII, 8, 10, 12, 16, 17, LXIX, 25. T. Whittemore has expressed the opinion that the popularity of representations of imperial riders in late Byzantine art is due to the appearance of the hated Crusaders: T. Whittemore, “A Byzantine Bronze Medallion with an Imperial Representation,” in *Studies in Art and Literature for Belle Da Costa Greene* (Princeton, 1954), pp. 189–190.

578), the emperor in his military costume rode his horse, eager to gain the world for Christ. We may call this period *militia*, to suggest its prevailing ideological tone. In the course of the development of the imperial theology we saw that the emperor was gradually exalted. In the earlier stages of this exaltation, a period in which the conventional limits range from the reign of Tiberius II (578–582) to the year A.D. 843, the imperial costume reflects the idea of *vicariatio*. This may well be the suggestive title of the period. Soon thereafter the emperor reached heaven. There his clothes, symbolically transmuted by a mystical, bright light, prefigured the life that is to come. It is that light which was reflected on the golden discs, which he, the “ἐπίγειος Θεός”<sup>78</sup> distributed to his people. Because of this mystical transmutation we suggest the title *metamorphosis* for the period running from the year A.D. 843 to the enthronement of Alexius I, A.D. 1081.

Yet while the emperor's more earthly attributes came to be restressed, the realm over which he presided was beset with difficulties. The emperor rode on his charger again. He took the sword and faced the great battle. Was he, the elect one, to save the world or even the city?<sup>79</sup> Symeon of Thessalonica says that it is only the kingdom of the King of kings that is eternal.<sup>80</sup> The emperor, aware of this, dressed in the mortal costume of humility, kneels in front of Christ. This is how the Palaeologan coins present him along with the other type, emperor on horseback.<sup>81</sup> *Humilitas*, then, may be the appropriate title for the last phase of the story of the imperial costume.<sup>82</sup> Dressed

<sup>78</sup> See V. Valdenberg, “Nikoulitza et les historiens byzantins,” *Byzantion*, III (1927), p. 97.

<sup>79</sup> See some types in which the emperor appears holding a model of a city, Sabatier, op. cit., pp. 282, 283, pl. LXIV, 2, 3.

<sup>80</sup> Symeon of Thessalonica, op. cit., col. 353.

<sup>81</sup> Wroth, *C.B.M.*, II, pl. LXXIV, 10–12.

<sup>82</sup> For the chronological limits we have set for each period we have taken into consideration the prevailing ideological tone reflected on the coinage. Therefore, it should be borne in mind that these dates are not rigid but part of an unbroken historical flow. The emperor, in other words, did not wake up early one morning in the year A.D. 1081, for instance, and decide to change the symbolism of his costume. Such changes happened gradually; new symbolism came to the fore and pushed to the background previous ideas without eliminating them. This is true especially when some types of coins from an earlier “period” continue to exist in later times and may carry with them the ideas which they originally symbolized.

in the *loros*, the emperor kneels and becomes *ικέτης*. Who knows whether he asks the Grace of God,<sup>83</sup> or receives his last call from Christ: “εἴσελθε, βασιλεῦ, καλεῖ σε ὁ βασιλεὺς τῶν βασιλευόντων καὶ υἷριος τῶν κυριευόντων. . . . Ἀπόθου τὸ στέμμα ἀπὸ τῆς κεφαλῆς σου.”<sup>84</sup>

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<sup>83</sup> Cf. Symeon of Thessalonica, loc. cit.

<sup>84</sup> *De cerimoniis*, p. 276.



## IMPERIAL SYMBOLISM ON TWO CAROLINGIAN COINS<sup>1</sup>

(SEE PLATES XXX–XXXI)

Among the coins struck under the authority of Charlemagne, the temple-type coin has occasioned the greatest amount of discussion. On the obverse of this coin is a portrait of the emperor, around which is the inscription D(ominus) N(oster) CAROLUS IMP(erator) AUG(ustus). On the reverse is a temple, surmounted by a cross and showing another cross between the pillars; around the temple is the inscription XPICTIANA RELIGIO.<sup>2</sup>

Various explanations of the coin have been suggested. That given sixty years ago by Prou<sup>3</sup> is "that it is in the Roman coinage that the ninth century artist found the model of the temple; this edifice, accompanied by the legend CHRISTIANA RELIGIO, marked twice by the Christian sign of the cross, is without doubt a symbolization of the Christian religion; but it is also, we believe, a summary representation of the basilica of St. Peter of Rome in which Charlemagne received the imperial crown from the hands of Pope Leo."

The most recently published interpretation is that of Völckers,<sup>4</sup> who is skeptical of the association with St. Peter's, and remarks, "As Einhard reports, although Charles had endured the crowning and

<sup>1</sup> I wish to thank the American Numismatic Society for the study grant for its 1955 Summer Seminar which made this work possible. For their assistance during the course of the work I thank the staff of the Society's museum. Finally, I especially thank Professors Andreas Alföldi and Gerhart Ladner for their guidance.

<sup>2</sup> PLATE XXX, no. 1. Other coins of Charlemagne with the temple-type have the inscription *Dominus Noster KARLVS IMP(erator) AVG(ustus) REX Francorum ET Langobardorum*. cf. H. H. Völckers, "Die Christiana religio-Gepräge, ein Beitrag zur Karolingerforschung," *Hamburger Beiträge zur Numismatik*, Heft 6/7 (1952/53), p. 41.

<sup>3</sup> M. Prou, *Les Monnaies Carolingiennes* (Paris, 1896), p. xi.

<sup>4</sup> H. H. Völckers, op. cit., p. 15.



recognition with open unwillingness, he nevertheless let it happen . . . Considering this fact, there is no need here to examine the legitimation of the Pope and its motive or to examine in this connection the question of the delineation of the areas of power of the 'two swords which God gave to the world.' Enough for us is the fact that Charles has recognized the two power doctrine and that from the point of view of our present, purely numismatic investigations, the strict synthesis between the worldly and the spiritual *imperium*, which had been accomplished in Rome on Christmas Day 800, finds on the obverse and reverse of the *Christiana religio* denarius an obvious reflection."

If it were only the temple-type coin which bore the portrait of Charlemagne on the obverse, the close symbolic relationship between obverse and reverse implicit in these views would be plausible. Other coins, however, bear Charlemagne's portrait on the obverse: on one, for example, the reverse shows a ship surrounded by the inscription DORESTADO, an important port in the Frisian trade.<sup>5</sup> On another, the reverse shows a city gate surrounded by the word LUGDUNUM.<sup>6</sup> A third shows the instruments of coinage and the words METALL(um) GERMAN(icum),<sup>7</sup> which may signify a mine or a metal, although the precise meaning is uncertain. In these cases the portrait of Charlemagne bears no direct relation to the reverse type; it is unlikely that the temple-type coin should be, in this respect, an exception.

In a different respect, however, it is exceptional: this is in the reverse inscription. The other "portrait" coins have on the reverse a place name which is symbolized by the type: the ship for Dorestad, the city gate for Lyons, and the instruments of coinage for "Metallum Germanicum." "Christiana religio," however, is not a place, and does not conform to the pattern.

It is likely, on the other hand, that the coin is closely linked to a place, namely, the palace. The Capitulare of Thionville of 805 says, "... we wish that money should be struck in no place other than in our palace, unless perhaps it will have been ordained otherwise by

<sup>5</sup> PLATE XXX, no. 2.

<sup>6</sup> PLATE XXX, no. 3.

<sup>7</sup> PLATE XXX, no. 4. The coin is discussed by Sture Bolin, *Scandinavian Economic History Review*, I, 1953, p. 14.

us.”<sup>8</sup> In 808, in the Capitulare of Nijmegen, it was decreed “that money shall be struck in no place except at court, and these palatine denarii are to be traded and are to spread through all parts.”<sup>9</sup> Since the palatine denarii are otherwise unidentified, and since the origin of the temple-type coin is otherwise uncertain, it seems likely that the temple-type coin is the palatine denarius. The problem is to determine the significance of the temple and the inscription *CHRISTIANA RELIGIO*.

As Prou remarked, the temple-type imitated Roman temple types, the last of which was struck in 411. In early imperial coins bearing the temple, the representation shows a large number of pillars close together.<sup>10</sup> On later coins the temples have fewer pillars, so that the designer could portray the statue of the deity worshipped.<sup>11</sup> The Carolingian temple imitates the latter type, but the cross is substituted for the pagan statue between the pillars, and the pagan temple is clearly made a Christian church by the addition of the cross at the peak of the roof.

This suggestion of the replacement of pagan worship by Christian worship is made unequivocal by the inscription, *CHRISTIANA RELIGIO*. *Religio*, as defined by Isidore of Seville, is “so called because through it we connect our souls to the one God for divine worship by the bond of adoration.”<sup>12</sup>

<sup>8</sup> Capitulare Missorum in Theodonis Villa Datum, c. 18, Mon. Germ. Hist., Capitularia, p. 125: De falsis monetis, quia in multis locis contra iustitiam et contra edictum fiunt, volumus ut nullo alio loco moneta sit nisi in palatio nostro, nisi forte iterum a nobis aliter fuerit ordinatum; illi tamen denarii qui modo monetati sunt, si pensantes et meri fuerint, habeantur.

<sup>9</sup> Capitula cum primis constituta, c. 1, Ibid., p. 140: De monetis, ut in nullo loco moneta percutiatur nisi ad curtem; et illi denarii palatini mercantur, et per omnia discurrant.

<sup>10</sup> PLATE XXX, no. 5. For a discussion of Roman temple-type coins, see Donald F. Brown, *Temples of Rome as Coin Types* (NNM No. 90), New York, American Numismatic Society, 1940. The *Templum Urbis* is discussed by Gage, “Le Templum Urbis et les origines de l’idée de Renovatio,” *Melanges F. Cumont: Annuaire de l’institute de Philologie et d’Histoire Orientales et Slaves*, iv (1936), pp. 151–187.

<sup>11</sup> PLATE XXX, no. 6.

<sup>12</sup> Isidore of Seville, *Etymologiae* VIII, 2, 2 (ed. W. M. Lindsay, I): Religio appellata, quod per eam uni Deo religamus animas nostras ad cultum divinum vinculo serviendi.

The expression, *Christiana religio*, is found only occasionally in the literary sources of the Carolingian period.<sup>13</sup> Therefore, when one source uses the expression several times, the identity of terminology makes it somewhat likely that the coin came from the same milieu which produced the literary source. In addition, when that literary source stresses the mutual opposition between the Roman cult of idols and the Christian worship of the one God; when it describes the worship of the one God as the "*arx religionis Christianae*,"<sup>14</sup> and the *signum* of Christ as the cross; finally, when the source, while strictly a theological treatise, bears indirectly on the religious aspects of the imperial dignity: when all these are characteristics of the literary source as they are of the coin, then the connection between the two becomes fairly certain, and the document can be used as a guide in understanding the coin.

The treatise in question is the *Libri Carolini*, the Carolingian response to the Second Council of Nicaea. In 787, this council, held under Irene and her son Constantine, reversed the half-century old Byzantine iconoclastic policy. Hadrian I, who had approved the decisions of the council, sent to Charlemagne an unfortunately poor

<sup>31</sup> Examples are:

- a) Paulus Diaconus, PL 95, col. 1583:  
Propagatori ac defensori Christianae religionis domino Carolo, Christi potentia regum sapientissimo . . .
- b) Magnus, Senonensis Archiepiscopus, *Libellus de Mysterio Baptismatis*, PL 102, col. 981:  
Catechumenus autem audiens sive instructus interpretatur, ut audiat et discat, antequam ad sacrum accedat fontem, mysteria christianae religionis sacramenta.
- c) *Ibid.*, col. 985:  
. . . et aures similiter tanguntur, ut salutarem doctrinam christianae religionis ac fidei semper auscultent, et intente audiant, et omnes ridiculas daemonis suasiones respuant.
- d) Alcuin, *Dialogus de Rhetorica et Virtutibus*, PL 101, col. 945:  
Attamen rogo ut . . . edisseras quomodo hae excellentes virtutes in nostra religione Christiana intelligendae atque observandae sint ?
- e) Einhard, *Vita Karoli* (ed. L. Halphen, Paris, 1923) p. 24:  
. . . ut etiam cultum daemonum dimittere et christianae religioni se (Saxones) subdere velle promitterent.
- f) *Ibid.*, p. 76:  
Religionem christianam . . . coluit, ac propter hoc plurimae pulchritudinis basilicam aquisgrani extruxit.

<sup>14</sup> Cf. n. 17.

translation of the council's deliberations, which were based on the image doctrine of John of Damascus. To the Carolingian theologians, to whom images were primarily memorials, the acts of the council seemed heretical.

In his preface to the *Libri Carolini*, Charlemagne explains his motive for this interference in theological problems: "Because we have by the gift of the Lord received into our hand the government of the kingdom, it is necessary that we strive with every exertion and with the help of Christ for its defense and exaltation, so that we may be worthy to be assessed with that name of a good and faithful servant . . . The inflated ambition of puffed up arrogance and the most insolent hunger for empty praise has inflamed some people from the eastern parts, not only kings but also the priests . . . and by their wish to force the order of their deeds on the memory of posterity, they cut the bond of church unity."<sup>15</sup>

The position taken by the *Libri Carolini* is that the Fathers of the Council of Nicaea—influenced by "*Romana ambitio*," by a trace of ancient paganism, and attempting to follow the pagan example of the Romans and Babylonians—have failed to make the proper distinction between the divine and human, between things of heaven and things of the world, between interior things and exterior things. Our salvation is achieved by Christ on the cross, by which he associated terrestrial things with heavenly. The cross, then, is the symbol of God, and is the guide for the mortifications of the Christian life. Images, on the other hand, while permissible as reminders of past events and as ornaments, have no function in the achievement of salvation. Therefore, they are not to be set equal to the cross. To adore God *in tabulis* is an imitation of the example of the Romans and Babylonians. Certain expressions of the council records are also cited as showing pagan influence.

<sup>15</sup> *Libri Carolini sive Caroli Magni Capitulare de Imaginibus, Praef.*, MGH, Legum Sectio III, Tomus II, Supplement, p. 2:

Cuius quoniam in sinu regni gubernacula Domino tribuente suscepimus, necesse est, ut in eius defensione et ob eius exaltationem Christo auxiliante toto annisu certemus . . . Inflamavit igitur ventosae arrogantiae inflata ambitio et vanae laudis insolentissimus appetitus quosdam orientalium partium non solum reges, sed etiam sacerdotes . . . dumque suorum gestorum ordinem volunt mandare memoriae posteritatis, discindant vinculum ecclesiasticae unitatis.

Several selections from the *Libri Carolini* can be taken as best illustrating these themes. In book I, chapter 3, the author objects to the use of the term *divalia* to describe the deeds and writings of Constantine and Irene:<sup>16</sup>

A certain obsolete error of ancient paganism, repelled by the coming of Christ, is seen to have left a vestige in those, who claim that they maintain the peak of the faith and of the *Christiana religio*, who audaciously strive to decree new and inept constitutions within the Church and do not hesitate to style themselves in the pagan manner as "divos" and their deeds as "divalia" ... It is more Roman ambition than apostolic tradition which admits these things and things similar to them.

In book II, chapter 21, the author argues "... that it is not, as they (the Byzantines) say, against the *Christiana religio*, not to worship and not to adore images:"<sup>17</sup>

Great are the instruments of the *Christiana religio* ... among which the worship and adoration of images hold no place whatever ... Whence they must avoid and by all means fear, lest, while they try to join the worship and adoration of images to the *Christiana religio*, they are seen to prevent the exclusive worship and adoration of the one God. For the two are mutually exclusive, so that if one should stand, the other cannot stand ... And if the worship and adoration of the one God is the stronghold and defense and glorious sign of the *religio Christiana*, as indeed it is, handing it over to images or any such things is against the *Christiana religio* ...

<sup>16</sup> *Libri Carolini* I, 3: Priscæ gentilitatis obsoletus error Christi adventu repulsus quoddam cernitur in his reliquisse vestigium, qui se fidei et religionis christiane iactant retinere fastigium, qui et intra ecclesiam novas et ineptas constitutiones audaciter statuere affectant et se 'divos' suaque gesta 'divalia' gentiliter nuncupare non formidant. Unde fit, ut quod protoplasti perpetrare floridera in sede virosa serpentis promissione inlecti, hoc isti perpetrent in ecclesia antiqui hostis fraude decepti, cum videlicet et isti per inanis glorie celsitudinem se 'divos' nominare non renuant et per avaritiæ rapacitatem, per quam vane laudis culmen adire temptant, ecclesiæ novum aliquod inferre contendunt.

<sup>17</sup> *Libri Carolini*, II, 21, p. 80: Quod non sit contra religionem christianam, ut illi dicunt, non colere et non adorare imagines. Magna quidem sunt christiane religionis instrumenta, quæ, quamquam ex fidei soliditate et ex dilectione Dei et proximi pendeant, singillatim enumerare longissimum est. Inter quæ nullum penitus locum imaginum cultus et adoratio tenent, quoniam quidem nullo antiquitatis instituuntur documento vel fulciuntur exemplo, sed pene cunctarum divinarum Scripturarum abdicantur eloquio ...

Unde cavendum illis est et modis omnibus pertimescendum, ne, dum imaginum cultum et adorationem christiane religioni ingerere nituntur, singularem unius Dei cultum et adorationem frustrari videantur. Quæ duo ita inter se mutuo reluctantur, ut si unum steterit, aliud stare non possit ... Ac per hoc si religionis christianæ arx sive munimen et gloriosum insigne unius Dei cultus et

In Book II, chapter 28, the author discusses "... with how great reason the mystery of the Lord's cross is distinguished from images, which some contend to be equal to it:"<sup>18</sup>

For it is by the cross, not by images, that the ancient enemy is defeated; by these arms, not by purple colors, that the devil is routed; ... through it, and not through pictures, the human race is saved. It is that, not some image, which demands worship; this is the insignia of our kind, not some picture, which the legions of our army keep always before their eyes; this is the sign of our emperor, not an assemblage of colors, which our cohorts follow to battle ... By this wood of the cross is described the entire life of the saints, who follow Christ by taking up their cross and mortifying their bodies, so that insofar as the exterior man is broken, so the spiritual is renewed day by day, and, rejoicing in the hope of eternal life, they joyfully perform good works ... If therefore, we must take up our cross and follow You (Christ), Who, triumphing through the cross, joined earthly things to heavenly, and give back to Caesar the image of Caesar, then images must not be set equal to the cross, must not be adored or worshipped ... and You alone are to be adored, You alone followed, You alone worshipped who reign forever in unity of substance with the Father and the Holy Spirit.

adoratio est, immo quia est, hanc imaginibus vel quibuslibet rebus exhibere contra religionem christianam est ... Imagines vero omni sui cultura et adoratione seclusa, utrum in basilicis propter memoriam rerum gestarum et ornamentum sint an etiam non sint, nullum fidei catholicae adferre poterunt preiudicium, quippe cum ad peragenda nostrae salutis mysteria nullum penitus officium habere noscantur.

<sup>18</sup> *Libri Carolini*, II, 28, p. 89: Quanta ratione mysterium Dominice crucis ab imaginibus distet, quas quidem illi eidem equiparare contendunt. Hoc enim vexillo antiquus hostis, non imaginibus, victus est. His armis, non colorum fucis, diabolus expugnatus est. Per hanc, non per picturas, inferni claustra destituta sunt. Per hanc, non per illas, humanum genus redemptum est. In cruce namque, non in imaginibus, pretium mundi pependit. Illa itaque ad servile supplicium, non quaedam imago, ministra extitit. Hoc est nostri regis insigne, non quaedam pictura, quod nostri exercitus indesinenter aspiciunt legiones. Hoc est signum nostri imperatoris, non compaginatio colorum, quod ad proelium nostre sequuntur cohortes ... Ex quo ligno crucis omnis vita sanctorum describitur, qui tollentes crucem suam et mortificantes membra sua, quae sunt super terram, Christum sequuntur. Quorum quanto exterior homo corrumpitur, tanto interior renovatur de die in diem, et spe aeternae requiei gaudentes cum hilaritate bonis operibus insistent ... Si ergo crucem tollere et te, qui per crucem triumphans terrena caelestibus sociasti, sequi et imaginem caesaris caesari reddere debemus, non sunt imagines cruci aequiparandae, non adorandae, non colendae, sed huic mundo cum ceteris, quae mundi sunt, relinquendae, et tu solus adorandus, tu solus sequendus, tu solus colendus es, qui in unitate substantiae cum Patre et Spiritu sancto perpetim regnas.

Carl Erdmann, in *Forschungen zur Politischen Ideenwelt des Frühmittelalters*, (Berlin, 1951) p. 20, note 8, points out that *noster imperator* is Christ, not Charlemagne.

Finally, in Book III, chapter 15, the author associates Rome with Babylon:<sup>19</sup>

To adore God, who is omnipotent and not confined to a single space, in images as the gentiles adored their local and mortal kings, is profane and close to lack of belief. For indeed we read that no people committed this crime except the Babylonians and Romans . . . or those who took example from them, so that as these two kingdoms are known to have excelled the other kingdoms of the world in ferocity or in bravery, so also they are believed to have been more prone to worship and adore idols. There was, therefore, between these two most strong kingdoms a great concord, a great similarity.

What light do the *Libri Carolini* shed on the meaning of the coin? The symbolism of the cross is found chiefly in book II, chapter 28. By Christ's death on the cross, earthly things (terrena) have been associated with heavenly. The cross is the sign of victory over the devil, and in it is described the entire life of the saints, who, taking up their cross and mortifying their members, follow Christ. To the extent that the exterior man is broken, to that extent the interior man is renewed, and, rejoicing in the hope of eternal life, performs good works. Taking up our cross and following Christ means worshipping only the one God.

It is not surprising that the *Libri Carolini* furnish no basis for finding in the temple-type coin symbolism of Charlemagne's attitude to the problems of distinguishing between the emperor's religious and secular powers, or between the religious role of the emperor and that of the pope. The coin was an instrument for carrying to the entire population Charlemagne's program for religious reform of his empire, a program discernible in the institution of liturgical, educational and monastic reforms. Problems which were extrinsic to reform found no place on the coin. It is most likely, then, that when Charlemagne, in the Capitulare of 808 referred to the coin as the *denarius palatinus*, he used that expression, not because of the symbolism of the coin, but because, as is clear from the Capitulare, he intended that the coin

<sup>19</sup> *Libri Carolini* III, 15, p. 135: In tabulis ergo, Deum, qui inlocalis et omnipotens est, adorare velle, sicut gentiles reges suos locales sive mortales adorabant, profanum est et incredulitati vicinum. Nullam enim hoc scelus fecisse legimus gentem, nisi Babylonios et Romanos vel eas gentes, quae ab his aut subacte aut finitime fuere aut ab his exempla sumpsere, ut sicut in ferocitate sive in fortitudine haec duo regna ceteris mundi regnis eminuisse noscuntur, ita etiam in colendis idolis et adorandis proniora fuisse credantur. Fuit itaque inter haec duo fortissima regna magna concordantia, magna similitudo.

should be struck only at the palace. The Capitulare reads: *De monetis, ut in nullo loco moneta percutiatur nisi ad curtem; et illi denarii palatini mercantur, et per omnia discurrant.*<sup>20</sup> This is the only instance in which there is reference to a *denarius palatinus*, and the word *palatini* is most simply understood as being a concise alternate for *perussi ad curtem*.

Nevertheless, a connection between the symbolism of the coin and the palace itself certainly existed, for, just as a ship symbolized the activities of the seafaring city, so the temple and inscription *Christiana religio* symbolized Christian reform, which centered at the palace. The coin, as an instrument for carrying the reform program to the entire population, bore close affinity with the oath of allegiance to Charlemagne as emperor in 802, which, also disregarding extrinsic problems of distinction of powers, brought religious reform to his subjects. The content of the coin corresponds with that of the oath: "Each person must strive to keep his own self fully in the holy service of God according to the precept of God and his promise, because the lord emperor himself is not able to have the necessary care and discipline for each one individually."<sup>21</sup>

The silver coinage of Louis the Pious continued that of his father. At some time in his reign, however, Louis had a gold solidus struck, bearing the inscription *munus divinum*, divine gift.<sup>22</sup> Grierson has made a thorough cataloguing of the surviving specimens and the imitations. As to its meaning he says:<sup>23</sup>

The obverse type, the laureate bust of the emperor, differs in no substantial manner from the portrait deniers of Charlemagne and of Louis himself. The reverse type and legend—the cross in a crown of laurel, surrounded by *MVNVS DIVINVM*—have been variously interpreted. In the last century it was widely held that these solidi were struck as gifts for monasteries and churches, and the legend was supposed to refer to the coin itself. Prou, on the other hand, suggested that it was analogous to the *DONO D[E]I* found on a silver Mero-

<sup>20</sup> Cf. n. 9.

<sup>21</sup> *Capitulare Missorum Generale*, MGH Capitularia I, p. 92: ... ut unusquisque et persona propria se in sancto Deo servitio secundum Dei preceptum et secundum sponsionem suam pleniter conservare studeat secundum intellectum et vires suas, quia ipse domnus imperator non omnibus singulariter necessariam potest exhibere curam et disciplinam.

<sup>22</sup> PLATE XXX, no. 7.

<sup>23</sup> Philip Grierson, "The Gold Solidus of Louis the Pious and its Imitations," *Jaarboek voor Munt- en Penningkunde* 38, (1951).



vingian coin, and that both implied wealth in general to be a gift from God. He subsequently modified this opinion, and argued that the words referred to the crown surrounding the cross on the reverse and worn by the emperor on the obverse; they implied that the crown, solemnly placed on the emperor's head by the pope, was a divine gift. This view is borne out by a study of contemporary accounts of the coronation at Rheims on 5 October 816. Exceptional importance, in papal and imperial circles, was attached to the ceremony. The crown was brought from Rome by the pope; it was said to be the crown of Constantine; one eye-witness of the ceremony refers to it as *munus Petri*. It is therefore inherently probable that the striking of the coins is to be brought into close relationship with the coronation . . .

In a footnote Grierson quotes the line of Ermoldus Nigellus to which he had referred:

Rome, O Caesar, transmits to you the *munera Petri* and Grierson comments, "One is tempted to see in the substitution of *Munus Divinum* for *Munus Petri* an implied criticism of papal pretensions.

Schramm has also been interested in the symbolism of the coin. Commenting on Grierson's remarks, Schramm says:<sup>24</sup> "*Munus* in the 9th century normally means *gift*, can also mean *office* or *grace* . . . *Divinum* was a favorite word . . ." The connection *munus divinum* Schramm found in the liturgy to mean communion. He concludes that the legend of the solidus should be connected with the coronation of 816 only to the extent that Louis considered his elevation to the crown "by the grace of God" to be a divine gift. The theologians around Louis were transforming the idea of the empire from that of a personal relation to that of a *ministerium*. "The inscription of the gold solidus, *munus divinum*, signifies a milestone on this train of thought."

It is quite true that the empire can be looked on as a gift. In a poem written in 843 by Florus, a deacon of Lyons, we find:<sup>25</sup>

Mountains and hills, forests and rivers, and fountains,  
Lofty peaks and deep valleys, mourn the race of the Franks,  
Which, raised to the empire by the gift of Christ [*munere Christi*],  
Behold, now lies immersed in dust.

A connection between the inscription and the crown is thus possible, but in that case the inscription would be only remotely connected with the cross.

<sup>24</sup> P. E. Schramm, *Herrschaftszeichen und Staatssymbolik*, Hiersemann, Stuttgart, 1954, MGH Schriften Bd. XIII, Vol. I, pp. 303-308.

<sup>25</sup> MGH, *Poetae Aevi Carolini*, II, 559-560.

It is likely that the ninth century artist imitated a Roman type of Constantine. An example is a coin celebrating Constantine's tenth year of rule, showing on the reverse a wreath within which is the inscription VOTA X, and around which is the inscription CAESARVM NOSTRORVM.<sup>26</sup> The *vota* is a *do ut des* transaction with the deity: the emperor, in return for imperial *felicitas*, will show his piety by financing secular games, by building a temple, but most frequently by sacrifice. An example of the emperor sacrificing is seen on a coin of Antoninus Pius.<sup>27</sup>

The designer of the gold solidus of Louis the Pious has substituted a cross for the references to the *vota*. This substitution of the symbol of the Christian sacrifice for that of the pagan sacrifice brings the MUNUS DIVINUM inscription into closer relation with the cross, implying that the sacrifice on the cross is a "free gift" in contrast to a *do ut des* transaction.

It is quite possible that the design for the coin came from the environment of Hrabanus Maurus, the favorite pupil of Alcuin, who became the Abbot of Fulda in 822 and was the most eminent theologian of his day. Hrabanus upheld Louis' position in the struggle between the emperor and his sons. As for the cross, the monastery of Fulda had relics of the cross, and in its honor Hrabanus Maurus wrote several short verses and a book of poems. Most important of all, in these poems he uses the expression *munus divinum* in connection with the cross. In one of these short verses he describes the cross as "*divino munere plena*."<sup>28</sup>

The protecting cross of God shines, full with the divine gift. More closely related to the coin is a poem dedicated to Louis the Pious which is included in the book of poems which Hrabanus wrote in honor of the cross. Wishing to do his best, he imitated the picture

<sup>26</sup> PLATE XXX, no. 8. It is also possible that the coin is an imitation of a fifth century Byzantine coin (PLATE XXX, no. 10), which is similar to the Constantinian coin. In favor of this view is the fact that both coins have a cross inside a wreath. In favor of a direct relation between the Carolingian and Constantinian coins is the fact that these coins, unlike the Byzantine, have inscriptions around the wreath. A Carolingian artist would place the cross inside the wreath just as naturally as the earlier Carolingian artist placed the cross inside the temple.

<sup>27</sup> PLATE XXX, no. 9.

<sup>28</sup> MGH, *Poetae Aevi Carolini*, II, 223.

poems which had been popular at the court of Constantine. In these poems, the letters can be read in the normal manner as though there were no picture. The letters included in the picture, however, in addition to being part of the normally read poem, form separate short verses.<sup>29</sup> Thus, the fourth line of the poem to the emperor reads:

*Laxasti in cruce, iusticiae cum frena locaras.*

The first and last "i" of iusticiae form part of the inscription of the emperor's halo, which reads:

*Tu Hludounicum Criste corona.*

Constructing the poems requires ingenuity, and, since the meaning becomes somewhat obscure, the poet adds a prose explanation, which corresponds phrase by phrase with the poem.

The first point of interest is that the expression *munere divino* in the fortieth line of the poem is paraphrased with the words *divina gratia*. The poem reads:

Quam est solidus permene tegit Augustus ovile,  
Transformat orbis Christi cum clara tributa,  
Jure colendi dum memor aequae trophaea parans dat,  
Quae hoc sint nomen ubique means devotum ab ore  
Nempe tonat, urgetque probe pectus diu amari,  
Sit tremor estque bonae divino munere famae,  
Proficit inde orbe madidum fretum illicitaque  
Sic abicit portum, cruce dat Jesum sequiturque.

This is paraphrased by the words:

O quam solidus fide et stabilis in Christiana religione  
manet, qui oves sibi commendatas diligenter omni hora  
custodit, et pensum Dominici servitii cultumque divinum  
strenue ab omnibus sibi obtemperantibus expetit, dum  
superni regis vexillum cunctis venerandum esse ostendit,  
et ad praedicandum Christi Evangelium ubique doctores  
suos dirigit, qui duricordes sermonibus suis molliant,  
et ad percipiendum bonum odorem virtutum divina gratia  
opitulante producant, ut luxus saeculi spernant, et in  
Christo spem collocantes ipsius passionibus communicare  
appetant.

<sup>29</sup> PLATE XXXI, taken from *The Shorter Cambridge Medieval History*, I, 338.

Second, the terms in which Hrabanus Maurus expresses his ministerial concept of the imperial dignity are reminiscent of the *Libri Carolini* and the oath of 802: The emperor expects all to worship God and to serve Him; he shows that the cross must be venerated by all; he protects the sheep entrusted to him; he sends teachers to encourage all to place their hope in Christ and to spurn the lusts of the world.

Finally, Hrabanus Maurus says that it is by the authority of Christ that the emperor rules: "Hinc quoque ostenditur quod ejus auctoritate atque defensione, augustum imperium firmiter tenetur." Since, in these contexts, the divine grace which assists ruler and ruled in their aspirations toward Christ and the cross corresponds to the term *munus divinum*, it would seem not unlikely that on the coin, too, *munus divinum* and the cross are associated in the sense that on the "gift," which is the divine sacrifice of the cross, is founded the "grace" for the emperor's just government.

HUGH C. FALLON



## MEDIAEVAL AND MODERN COINS ACQUIRED BY THE AMERICAN NUMISMATIC SOCIETY: 1954—1958

(SEE PLATES XXXII–XXXVII)

Among the mediaeval and modern coins acquired by the American Numismatic Society between 1954 and 1958 the Carolingian were the more important. At the beginning of the period Carolingian coins numbered only fifty-four. Seventy specimens of kings and mints not represented before have been added. Although the Society's collection of 123 Carolingian coins is still small in comparison to the French collections, it seems worthwhile to present here a summary catalogue of the American Numismatic Society's collection.

The coins are arranged chronologically by rulers and within the rulers alphabetically by mints. Reference has been made to Maurice Prou, *Les Monnaies Carolingiennes* and occasionally to E. Gariel, *Les Monnaies Royales de France sous la race Carolingienne*. All the coins listed are deniers unless otherwise stated. Weights are given in grammes. Specimens illustrated on the plates are marked with an asterisk.

### *Pepin I 752–768*

- \*1. Chartres. Prou 924 var. Gariel 24. 1,18 gr.

### *Charlemagne 781–800*

- 2. Bourges. Prou 732. 1,66 gr.
- \*3. Chartres. Prou 488. 1,21 gr.
- 4. Duurstede. Prou 57. 1,24 gr.
- 5. Duurstede. Prou 62. 1,42 gr.
- \*6. Laon. Prou 268. 1,15 gr.
- \*7. Lyon. Prou 628. 1,18 gr.
- 8. Melle. Prou 681. 1,21 gr.
- 9. Milan. Prou 905. 1,30 gr.
- \*10. Narbonne. Prou 835 var. 1,14 gr.
- 11. Pavia. Prou 897. 1,45 gr.
- 12. Toulouse. Prou 801. 1,36 gr.
- \*13. Uncertain Italian mint. Prou 891. 1,18 gr.

*Louis the Pious 814-840*

- \*14. Solidus struck in Frisia. P. Grierson, "The Gold Solidus of Louis the Pious and its imitations," in *Jaarboek voor Munt- en Penningkunde*, XXIII, (1951), p. 36. 4,39gr.
- \*15. "Christiana Religio" type of unknown mint. Prou 987. 1,81 gr.  
16-24. Nine die varieties of the preceding. 1,20gr. to 1,68gr.
- \*25. Aquitaine. Prou 657. 1,74gr.
- 26. Bourges. Prou 734. 1,81gr.
- \*27. Lyon. Prou 630. 1,78gr.
- \*28. Marseille. Prou 886. 1,73gr.
- 29. Meaux. Prou 360. 1,74gr.
- \*30. Melle. Prou 713. 1,56gr.
- 31. Milan. Prou 909. 1,74gr.
- \*32. Narbonne. Prou 836. 1,79gr.
- \*33. Palais. Prou 8. 1,77gr.
- \*34. Paris. Prou 317. 1,75gr.  
35-37. Pavia. Prou 902. 1,78gr.; 1,71gr. and 1,91gr.
- \*38. Quentovic. Prou 187 var. 1,59gr.
- \*39. Sens. Prou 566. 1,84gr.
- \*40. Toulouse. Prou 806 but IMPER. 1,74gr.
- 41. Tours. Prou 446. 1,78gr.
- 42. Venice. Prou 918. 1,35gr.
- 43. Verdun. Prou 145. 1,77gr.

*Pepin I 817-838*

- 44-45. Aquitaine. Obol. Prou 659 and 663. 0,69gr. and 0,76gr.

*Charles the Bald 840-877*

- 46. Aquitaine. Obol. Prou 671. 0,68gr.
- 47. Arras. Prou 215. 1,57gr.
- 48-49. Blois. Prou 473, 1,39gr. and 1,57gr.
- \*50. Bourges. Prou 739. 1,74gr.  
51-52. Curtisasonien. Prou 411. 1,61gr. and 1,54gr.
- \*53. Evreux. Prou 397. 1,70gr.
- 54. Laon. Prou 270. 1,3gr.
- 55. Lisieux. Prou 401. 1,79gr.
- \*56. Le Mans. Prou 420. 1,75gr.  
57-62. Melle. Prou 692, 699 and 700. Average weight 1,67gr.
- 63-65. Melle. Obols. Prou 706, 707 and 708. Average weight 0,74gr.
- 66. Nevers. Prou 956 as Charles the Fat. 1,66gr.
- 67. Noyon. Gariel 159. Prou 953 who classifies this coin as of an undetermined mint. 1,64gr.
- 68-69. Orleans. Prou 517 and 518. 1,73gr. and 1,81gr.
- \*70. Palais. Prou 20. 1,64gr.
- \*71. Paris. Prou 326. 1,68gr.  
72-73. Quentovic. Prou 191 and 192. 1,68gr. and 1,63gr.
- \*74. Reims. Prou 296. 1,28gr.

- 75. Rennes. Prou 651. 1,34 gr.
- 76. Rouen. Prou 380. 1,69 gr.
- 77. Sens. Prou 573. 1,57 gr.
- 78. Soissons. Prou 278. 1,64 gr.
- 79. St. Denis. Prou 344. 1,6 gr.
- 80. St. Quentin. Prou 246/250. 1,72 gr.
- 81. Toulouse. Prou 813. 1,73 gr.
- \*82. "Christiana Religio" type of unknown mint. Gariel 45, 70. Compare Prou 1067. 1,92 gr.

*Pepin II 839–865*

- \*83. Melle. Prou 689. 1,69 gr.
- 84. Toulouse. Prou 809. 1,54 gr.

*Louis II 855–875*

- \*85. Milan. C.N.I. 8. Gnechi 8. 1,65 gr.

*Louis III 877–882*

- \*86. Tours. Prou 453. 1,62 gr.

*Carloman 879–884*

- \*87. St. Nazaire. Prou 603 var. 1,74 gr.

*Charles the Fat 884–887*

- 88. Arles. Prou 874. 1,54 gr.
- \*89. Beauvais. Prou 256. 1,55 gr.
- 90. Bourges. Prou 744. 1,67 gr.
- 91. Nevers. Prou 596. 1,54 gr.

*Eudes 887–898*

- 92. Anger. Prou 432 var. 1,66 gr.
- 93. Blois. Prou 482. 1,59 gr.
- \*94. Chartres. Prou 497. 1,83 gr.
- 95. Limoges. Prou 783. 1,61 gr.
- 96–97. Orleans. Prou 522 var. and 523. 1,65 gr. and 1,69 gr.
- 98–99. Toulouse. Prou 823 and 825. 1,48 gr. and 1,64 gr.
- \*100. Tours. Prou 461. 1,78 gr.

*Charles the Simple 898–923*

- 101. Arras. Prou 224 var.
- \*102. Chateaudun. Not in Prou. Gariel 50,26. 1,35 gr.
- \*103. Melle. Neither in Prou nor Gariel with the inscription MET/ALO. The fourth letter which appears at first to be meant as an A is of course an inverted V. 1,48 gr.
- 104. Meux-Troyes. Prou 549. 1,51 gr.
- 105. Strassbourg. Not in Prou. Gariel 75. 1,4 gr.



*Raoul 923-936*

- \*106. Curtisasonien. Prou 418 var. 1,6 gr.  
 107. Orleans. Prou 525. 1,09 gr.

*Louis IV 938-954*

- \*108. Langres. Gariel 10. Compare Prou 611. 1,02 gr.

*Lothaire 954-986*

- 109-110. Bourges. Prou 755, 1,22 gr. and 1,18 gr.  
 \*111. Chalon Sur Saone. Prou 622. 1,25 gr.  
 112-113. Milan. Prou 1051 and 1054. 1,43 gr. and 1,5 gr.

*Lothaire, Emperor 840-855*

- \*114-115. Duurstede. Prou 71 and 74. 1,33 gr. and 1,55 gr.

*Berenger I 916-924*

- \*116. Milan. C.N.I. 4. 1,44 gr.

*Guido Da Spoleto 889-894*

- \*117. Milan. C.N.I. 7. 1,31 gr.

*Arnold of Carinthia 887-899*

- \*118. Mainz. Prou 36. 1,70 gr.  
 119. Mainz. Prou 37. 1,74 gr.

*Louis the Blind 901-934*

- \*120. Vienne. Prou 850. 1,35 gr.

*Louis the Child 899-911*

- \*121. Strassbourg. Prou 52 note. 1,76 gr.

*Conrad the Pacifist 937-993*

- \*122. Lyon. Prou 634. 1,17 gr.

*Rudolf III 993-1032*

- \*123. Lyon. Prou 641. 1,22 gr.

Other noteworthy additions to the collection of the American Numismatic Society were eleven gold and fifteen silver coins of Cologne, thus enriching the already important series of coins and medals issued by the city and archbishops of this Rhenish metropolis. The collection now numbers close to five hundred pieces which are about evenly divided between the city and the archbishopric. It con-

tains thirty-two florins and ducats, one double taler klippe, two taler klippes, no less than eighty-three different talers, eleven half talers, one half taler klippe and seven gulden issued at various places and counterstamped by the city of Cologne.

Since 1954 the following 26 coins have been added by gift or purchase to the collection:

*Merovingian period*

- \*124. Triens of the seventh century, issued by mintmaster Suno. Bust with diadem to right. *Rev.* Cross in beaded circle. Hävernack 9. Prou 1171. 1,22 gr. The coin was purchased with a lot of mediaeval coins, all with labels in the Russian language; it might have been part of a Russian hoard.

*Dietrich II, Count of Moers 1414–1463*

- 125. Florin 1436 struck at Riel. Noss 349.<sup>1</sup>

*Hermann IV, Landgrave of Hesse 1480–1506*

- 126. Albus 1506. Noss 514.

*Philipp II of Daun-Oberstein 1508–1515*

- 127. Gulden 1509. Noss 528.
- 128. Gulden 1511. Noss 536a.

*Salentin, Count of Isenburg 1567–1577*

- \*129. Taler 1570 counterstamped with a small lion-shield for Steevensveerd in Holland. Compare Noss 76a.

*Clemens August, Duke of Bavaria 1723–1761*

- 130. Ducat 1750. Noss 747. This ducat was probably struck on occasion of the archbishop's fiftieth birthday. In the light of Clemens August's established reputation as a philanderer the motto on the reverse "NON MIHI / SED / POPULO" has an ironical ring, considering how little Clemens August really cared about the welfare of his people. Compare Noss' undisguised criticism of the archbishop's moral conduct in which he states that this amorous prince of the church not only bestowed his attentions on the aristocratic ladies of his court but also on the humbler females of his realm.
- 131. Mining taler 1759 struck of Westphalian silver. Noss 763a.

*Maximilian Friedrich, Count of Königseck 1761–1784*

- \*132. Taler 1766. Noss 809a. The scarcity of this issue, limited to three hundred and eighty pieces, is due to the short weight which caused many specimens to be melted down.

<sup>1</sup> Alfred Noss *Die Münzen der Erzbischöfe von Cöln* and *Die Münzen der Städte Köln und Neuss*, Cöln 1913–1926.

*City coinage*

- 133-137. Gold florins 1525, 1567, 1573, 1582 and 1609. Noss 98, 121, 176, 209 and 283.
138. Ducat 1644. Noss 402c.
139. Guldengroschen 1516. Noss 76. This is the earliest of the so-called St. Ursula talers. Although these pieces were struck according to standard they lack any indication of being struck by the city. These pieces showing the three Magi Caspar, Melchior and Balthasar should be named "Dreikönigstaler."<sup>2</sup> They are definitively the product of local goldsmiths, as can be seen by the design and poor striking technique. The adoration of the three Magi brought a lot of pilgrims to the city who were delighted to take a memento of their pilgrimage home in form of these unofficially struck commemorative pieces.
- 140-142. Taler 1592, 1597 (2). Noss 249b, 256a, and 256f.
- \*143. Taler 1602. Two lions supporting city shield under helmet. *Rev.* Crowned double eagle with orb on breast. The legend is not interrupted by the tail feathers of the eagle. Not in Noss. Compare Noss 260.
- \*144. Taler 1726. Noss 610. This coinage by H. Koppers who was mintmaster at that time is a revival of the Burgundian standard which was doomed to failure as a previous attempt. The taler is furthermore of some interest because the city is not called an ordinary "CIVITAS" anymore, but has been elevated to a "LIBERA RESPUBLICA," probably in order to convince the archbishop Clemens August that his attempts to infringe on the city's rights would not be tolerated.
145. Taler 1727. Noss 615.
146. Half taler 1569. Noss 153b.
- \*147. Gulden 1675 struck by Johann Friedrich of Branderburg-Ansbach with counterstamp of Cologne. The punch shows the cursive letters COLN interlinked. The size of the punch is 5 × 6mm. Not in Noss. Compare Noss 506-508.
- \*148. Gulden 1688 struck by August Friedrich of Holstein as bishop of Lübeck with counterstamps of Cologne and Jülich. The counterstamp of Jülich shows a lion turned to the right in an oval punch. This counterstamp is the first one affixed to the coin in 1691. The authorities in Düsseldorf requested their mintmaster Longerich to check the circulating gulden as to the weight and fineness. Those found not to come up to standard received the punch with the lion. In his book on the coinage of Berg and Jülich-Berg, second volume, Noss mentions under no. 799 a gulden of 1690 issued by duke Johann Adolph of Holstein-Plön with the lion counterstamp. The die for the counterstamp of Cologne with the value of 48 albus is still preserved in the collection at Cologne but an actual coin with that counterstamp had not hitherto come to light. Our coin without the counterstamps is identical with Lange 508a.

HENRY GRUNTHAL

<sup>2</sup> Alfred Noss "Die Kölnischen Dreikönigstaler" in *Z/N* (1922), p. 28.

## THE LAST GOLD COINS OF THE FREE CITY OF NUREMBERG

(SEE PLATE XXXVIII)

When the Nuremberg mint was re-opened in 1806 the new mint-master Johann Egydius Rösch informed the authorities that it was his intention to strike not only various minor denominations but also ducats and "gold medals." Gebert<sup>1</sup> points out that these medals are multiple ducats and Kull<sup>2</sup> and Adam<sup>3</sup> say more precisely that they are double and triple ducats, a very interesting case of the well-known ambivalence of large gold pieces in the eighteenth century where in many cases it is not possible to draw a clear line between coins and medals when pieces do not carry any inscription testifying to their monetary character but are nevertheless struck in the exact weight of the prevailing monetary standard. The two pieces under consideration may, however, be classed as coins without much doubt because they are so similar to the single ducat the monetary character of which has never been questioned and which Rösch himself calls a ducat.

Neither Kull nor Adam described the triple ducat and until very recently no description thereof had been published at all. Both the writer<sup>4</sup> and Kellner<sup>5</sup> stated that they had not seen any such piece. In February 1957, however, the writer examined more closely the piece that is in the Bavarian State Collection in Munich and upon weighing it it was determined that it was actually a triple ducat (PLATE XXXVIII, 1). It was subsequently illustrated when Kellner's work was issued in book form<sup>6</sup>—the first descriptive book of Nuremberg coins since Im Hof's work of almost two hundred years ago.

<sup>1</sup> *Geschichte der Münzstätte der Reichsstadt Nürnberg*, p. 122.

<sup>2</sup> *Repertorium zur Münzkunde Bayerns*, p. 371.

<sup>3</sup> *Die Münzen unter der Regierung Kaisers Franz II, bzw. Kaiser Franz I von Oesterreich 1792–1825*, p. 57.

<sup>4</sup> *ANSMN* II, p. 70.

<sup>5</sup> *Jahrbuch für Münz- und Geldgeschichte* III–IV, p. 149.

<sup>6</sup> *Die Münzen der Freien Reichsstadt Nürnberg*, p. 166.

A second specimen of the triple ducat is in the possession of a German collector who has been kind enough to make a photograph available (PLATE XXXVIII, 2). This piece has a loop, and a third specimen which had a hole near its upper edge appeared in auction no. 12 of the late C. F. Gebert in Nuremberg on October 1, 1900 (PLATE XXXVIII, 3). The description in the catalogue refers to the Knoll catalogue<sup>7</sup> and the son of the late Mr. Gebert confirms that the piece actually came from the Knoll collection, but he does not know where it is now. It was bought by a Mr. Börsch about whom nothing is known by Mr. Gebert.

Inasmuch as the piece in the Munich collection is perfect whereas the two others have a loop and a hole respectively it is reasonably certain that there are at least three distinct specimens in existence.<sup>8</sup> Considerable search has failed to turn up another specimen, although it is of course impossible to state categorically that there is no other. The double ducat, while quite rare, is not so elusive as the triple. One piece is in the Germanic Museum, presumably the piece from the original Im Hof Collection, and another is in the collection of the Deutsche Bundesbank in Frankfurt, the former Reichsbank Collection. On the other hand there does not seem to be one in any other German public collection nor in the Austrian State Collection in Vienna. A request for information published in *Numismatisches Nachrichtenblatt* has elicited no reply from any private collector or public collection, but four pieces have turned up in auctions since World War II. They are the following: auction Münzen und Medaillen A.G. July 1-2, 1955, no. 617; auction Gaettens December 3, 1955, no. 81; auction Hirsch April 15, 1957, no. 1041; auction Coin Galleries May 10, 1957, no. 1650.

These are definitely four different pieces. The writer knows the location of the Gaettens and Coin Gallery pieces<sup>9</sup> and was told by a reliable source that the collector who bought the Münzen und Me-

<sup>7</sup> Knoll was a lawyer in Nuremberg. His collection was described in 1865 by J. & A. Erbstein and was auctioned after Knoll's death by the Notary Beck on behalf of the heirs in 1866.

<sup>8</sup> Since the photograph of the piece with the loop was made long after 1900 it is, of course theoretically possible that the hole in the piece from the Gebert auction was later covered with a loop, but this seems to be fairly unlikely.

<sup>9</sup> The Coin Gallery piece has re-appeared as no. 1075 in the sale of Dr. Peus on September 29, 1958.

daillen piece still had it in his collection at the time of the Hirsch and Coin Gallery sales. Further the writer saw the Hirsch specimen in March 1957 and the Coin Gallery specimen in April 1957 and they are not identical.

Thus there are at least six specimens in existence. Furthermore the double ducat appeared in six auctions prior to World War II, namely the Lotholz collection (Adolph E. Cahn, May 14, 1900), the Gebert sale of October 1, 1900, the Hess sale of November 4, 1931, the two Fürstenberg sales (Helbing June 7, 1932 and July 19, 1933) and the Sally Rosenberg sale of June 4, 1934. The piece in the two Fürstenberg sales is definitely the same specimen as it was not sold in the first sale, but as to the other it is now impossible to say whether there was any duplication or how they are related to the pieces in the post-war auctions. At any rate there can hardly be many more than about ten pieces in existence in all.

Considering that the striking of these coins commenced no more than a few months before the city of Nuremberg lost its independence it may be assumed that they must have had a very special commemorative interest for the citizens and the more so as it was the first issue of gold coins since 1792 and no taler size silver coins had been issued at all after 1795. It is therefore very likely that most of the pieces actually coined have been preserved and the fact that there are so few of these multiple ducats in existence now permits the conclusion that there was a very small coinage to start with.

Actually even the single ducats are far from common today, and in addition they possess a peculiarity which is not found on the Nuremberg gold coins of the eighteenth century—they are frequently markedly off center. Nor is this peculiarity confined to the single ducats. The triple ducat illustrated in the Gebert catalogue appears to be considerably off center and so, to a lesser degree is the looped specimen, especially on the side with the city view. Even the specimen in the Munich collection which is the best of the three is not completely centered on both sides as can be seen from the picture in Kellner's book and from the illustration accompanying this article which was made from a cast that had been kindly furnished by the Munich cabinet.

Similarly the double ducats are not all well centered. This can be

seen from both the illustration in Kellner's book which is taken from the specimen in the Germanic Museum in Nuremberg and from the one accompanying this article which is taken from the writer's specimen (PLATE XXXVIII, 4). In neither case is the wreath that encircles the coin complete on all sides. And this is true also for most of the specimens illustrated in the sales catalogues cited above. All this cannot fail to raise the suspicion that contrary to the normal procedure in the Nuremberg mint these coins might have been struck without a collar. This again, and especially in conjunction with the fact that the single ducat has a noticeably smaller diameter than its predecessors in 1790 and 1792, suggests the thought that perhaps all three denominations were struck from one single pair of dies which were the dies for the triple ducat and that the smaller denominations were produced by simply using smaller planchets which could take only part of the engraving of the entire die.

In fact, is it likely that Rösch should have had three pairs of dies engraved with all the expense that this entailed and then have used the dies for the double and triple ducats just to coin the very few pieces that he appears to have made?

On the other hand it is quite true that the single and double ducats have reeded edges which might be taken as pointing to a striking in a collar, but then a reeded edge can be applied very easily after a coin has been struck, especially if there are only comparatively few specimens to treat. Actually the reeding on the pieces which the author has seen is fairly irregular, a fact which, at least in the case of the single ducats, is due in part to the irregular thickness of the planchet which decreases towards the edge. And this, too, points to the possibility that the pieces were struck without a collar.

Obviously, however, the final proof for this thesis could only be brought by determining that the engraving on the dies is completely identical on all three denominations. For this purpose photographic negatives were made from all three denominations, in the case of the single (PLATE XXXVIII, 5) and the double from the writer's specimens, in the case of the triple from the casts of the Munich specimen. They were then fitted one over the other and, indeed, they are exactly identical even to the place where the smaller pieces end and the larger ones carry the design over as in the dotted circle surrounding

the single ducat and the wreath surrounding the double which both are usually incomplete on the smaller pieces.

It may therefore be stated affirmatively that only one pair of dies was engraved which is the one we see in full size on the triple ducats while the smaller denominations show it only incompletely.

HERBERT J. ERLANGER





## TWO HOARDS OF HETOUM-ZABEL TRAMS

(SEE PLATE XXXIX)

The American Numismatic Society has recently acquired a hoard of trams of Hetoum-Zabel of the Armenian dynasty of Cilicia. The hoard is reliably reported to have been unearthed in a garden in Tarsus. With the exception of a single specimen of a rare half double-tram of Levon I, this hoard, numbering 167 pieces, consists exclusively of the well-known trams of Hetoum-Zabel. Another hoard of Hetoum-Zabel trams (280 coins) was offered for sale several years ago by Mr. Armenak Poladian of Beirut, Lebanon. The present whereabouts of this hoard is not known, and it is fortunate that the A.N.S. has in its possession rubbings of the entire hoard.

Hetoum, whose reign was from 1226 to 1270, belonged to the powerful princely family of Lampron, and was married to Zabel, the only heir of Levon I. During his long reign, Hetoum secured a period of peace with his hereditary enemy, the Sultan of Konya, by nominally accepting his suzerainty and striking a small number of bilingual coins as a token of their friendship. An account of his reign from 1226–1245 is given in a recent report on these bilingual coins.<sup>1</sup> Thereafter, with the coming of the Mongols, Hetoum allied himself with them and took an active part in their campaigns against the Mamluks. The protracted struggles between the Mongol-Armenian forces and the Mamluks proved costly to the Armenians, and with the subsequent retreat of the Mongols, the latter were left alone to face a very much stronger enemy. By 1266, the Mamluk leader, Baibars, had captured most of the Crusader towns along the coast of the Mediterranean and prepared to attack Hetoum's kingdom. Hetoum hurried to the court of the Mongol Ilkhan Abaga in Tabriz, leaving his two sons to guard the Syrian gates which led into Cilicia. The outnumbered Armenians, 15,000 against 45,000, were defeated, one of

<sup>1</sup> Paul Bedoukian, *The Bilingual Coins of Hetoum I, (1226–1270) King of Cilician Armenia*, ANSMN VII, 1957, pp. 219–230.

the king's sons, Toros, was killed, and the other, Levon, taken prisoner. The Mamluks under Qalawun entered Cilicia, sacked Tarsus, Adana and Ayas, while another army under al-Mansur reached the capital city of Sis, burned the town and looted the royal treasury. Hetoum returned with a small Mongol army to find his country in ruins, one of his sons killed, and his heir in captivity. It was a disaster from which Cilician Armenia never fully recovered.

Two years later, in 1268, Baibars captured Antioch and ruthlessly put many of its inhabitants to the sword. The Templars who were guarding Cilicia's southern frontier, now found their position untenable and gave up the important fortresses of Baghras and La Roche du Russole, without a struggle.

Hetoum, powerless to further resist his enemy, was forced to conclude a treaty with Baibars, giving him many frontier towns and large sums of money.

The crown prince's release was arranged the following year by exchanging him with one of the Sultan's favorites who had been captured by the Mongols. On Levon's return from captivity in 1269, Hetoum retired to a monastery, and Levon was crowned King in 1270.

This sketch of Hetoum's reign is given to point out the gradual deterioration of the state of the country. From 1226 until 1245, the country prospered under relatively peaceful conditions, and its coinage reflected the times. Between 1245 and 1265, although the Armenians, in alliance with the Mongols, took part in many wars against the Mamluks, they continued to enjoy a fair degree of prosperity and probably secured part of the loot from captured Arab cities in Syria and Palestine. Beginning with 1266, however, the tide turned against them, and with the invasion of Cilicia by Baibars' forces, the royal treasury was looted, the country devastated, and its economy ruined. In addition, at the conclusion of a treaty of peace, the heavy demands of Baibars had to be met. It is therefore reasonable to expect that during this period, the coinage suffered in workmanship.

The study of the two hoards makes it possible to assign definite periods to the various types. These attributions are in agreement with the political and economic state of the country.

None of the coins of the kingdom of Cilician Armenia (1080-1375)

bears a date. The Arabic side of the bilingual coins of Hetoum struck in Sis between 1229 and 1237 shows Kaikobad's name but no date, whereas the coins of his successor, Kaikhusraw, are dated annually from 1237 to 1245. Comparative studies of the styling, inscription, etc. of the Armenian side of these coins and the trams of Hetoum, did not prove helpful in ascribing definite dates to the trams. There is, however, some resemblance between the styling of the inscription on the coins in group I and II given below, and that of the bilingual coins of Hetoum-Kaikhusraw (1237-1245), and it is very likely that they all belong to the same period. Sibilian<sup>2</sup> points out repeatedly that with each successive ruler of this kingdom, there was a gradual deterioration in the styling of the coins and care in their execution.

Careful examination of over two thousand Hetoum-Zabel trams by the author disclosed the existence of certain types of cross designs which apparently indicate issues of different periods.

The following table shows the various groups and the number of pieces from each hoard.

		<i>No. on Plate XXXIX</i>	<i>ANS Hoard</i>	<i>Poladian Hoard</i>
Group I.	<i>Obv.</i> Cross with star <i>Rev.</i> Lion holding cross	16	8	12
Group II.	<i>Obv.</i> Cross with dot <i>Rev.</i> Lion holding cross	42	12	9
Transition period of mixed dies			1	2
Group III.	<i>Obv.</i> Cross with dot <i>Rev.</i> Lion walking	46	46	112
Group IV.	<i>Obv.</i> Plain cross <i>Rev.</i> Lion walking	329	40	108
Group V.	<i>Obv.</i> Plain cross <i>Rev.</i> Star under lion	365	16	—
Group VI.	<i>Obv.</i> Plain cross <i>Rev.</i> Star under lion, No cross	370	7	—

<sup>2</sup> C. Sibilian, "Classification of Roupenian Coins" (Vienna, 1892) pp. 11, 25, (in Armenian).

	<i>No. on Plate XXXIX</i>	<i>ANS Hoard</i>	<i>Poladian Hoard</i>
Group VII. <i>Obv.</i> Plain cross	377	24	—
<i>Rev.</i> No star under lion, No cross			
Last issue type Group VII with name LEVON	399	2	—
Undeciphered		7	37
	<hr/> <i>Total</i>	163	280

This table brings out some interesting facts. The existence of two coins of Group VII, but bearing the name LEVON instead of HETOUN, is extremely interesting. This type, hitherto unreported, was most likely struck shortly after the retirement of Hetoum into the monastery and Levon's accession to the throne, but before the die makers had had an opportunity to design new dies for the coins of Levon. These can thus be dated 1270, the year Levon was crowned King, or possibly 1269, when he took his father's place. The latter date is less likely since the inscription would not refer to Levon as King before his actual coronation. In his recent searches, the author discovered another coin of this type in the Mekhitarist Museum in Vienna, and one in the Achdjian collection in Paris. All four are made from different dies. The existence of the two LEVON coins in the ANS hoard dates the burial of this hoard around 1270 and also establishes Group VII as the last type struck during the reign of Hetoum.

Moreover, the Poladian hoard does not contain coins belonging to Groups V, VI or VII, indicating that these were issued after the other groups.

The relatively small number of coins in Group I and Group II in both hoards, is strong evidence that they constitute issues struck during the early part of Hetoum's reign. This conclusion is further strengthened by some similarity in the styling of their inscriptions with that of the bilingual coins issued until 1245.

Group I is placed before Group II because it represents coins executed with greater care. Also, since the cross design of Group II is the

same as that of Group III, it is probable that Group II was issued after Group I and preceded Group III.

Similarly, Group IV is considered to be a later issue than Group III because its cross design is similar to that of Group V. Carrying this system further, Group VI is placed ahead of Group VII since it has a star in common with Group V whereas Group VII has no star.

We have thus established a reasonable sequence of issue for the different types of trams of Hetoum-Zabel. It is significant that although there are numerous die sequences in each group, there is no instance where a single die appears in two groups (with rare exceptions constituting transition periods when a few usable dies were used with the dies of the succeeding group).

It is seen from the tables that in numerous cases two or more coins are from the same dies. In addition, there are many die sequences involving a number of obverse and reverse dies. Attention is drawn below (pp. 150-1) to one of the large sequences.

It appears that a number of obverse and reverse dies were used simultaneously and indiscriminately, so that we have instances where one obverse is used with several reverses, and vice versa.

In conclusion, during the long reign of Hetoum, seven groups of designs were used, and these can be arranged in a chronological order. Within each group there appears variations in the completeness of the inscription, and it is unlikely that the inscription itself is an indication of an order of issue. The gradual deterioration in the styling and care of execution of the coins is clearly indicative of the deterioration of the political and economic conditions of the country.

In the tables below, the coins are numbered consecutively, and in a separate column each coin is identified by its number in the ANS hoard (N) and Poladian hoard (P). In each group the obverse varieties are listed with the most complete inscription first, and thereafter in descending order of completeness. The same procedure is followed in listing all the sub-varieties. The cross design of each sub-variety is also given. The die positions of the coins and the weights of the ANS hoard coins are given in different columns. The last two columns show, when present, the coins issued from the same obverse or reverse dies.

All of the coins issued by other rulers of Cilician Armenia showed

[illegible]

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the king and his name on one side of the coin. In the Hetoum-Zabel trams the figures of the king and queen holding the cross are on one side, and the name, HETOUM, on the other side of the coin. It was decided to consider the side having the images the obverse. By so doing it was possible to classify the trams of the two hoards into seven groups. It might be interesting to note that classification of the coinage of other rulers of this kingdom is based on the obverse design and inscription.

The obverse inscription is GAROGhOUTPN ASDOUDsOY (i.e., by the power of God), with its many variations. The reverse reads HETOUM TAKAVOR HAYOTz (i.e., Hetoum King of the Armenians). For the sake of brevity we have omitted the first two words HETOUM TAKAVOR and placed the variations in the word HAYOTz. Where the word HETOUM or TAKAVOR has an unusual spelling, it has been shown in the last column.

## TABLES

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
							identical with

GROUP I

Obv. Cross With Star Rev. Lion Holding Cross

A. — ԿԼԻՊՊՈՒԹ — ԻՆՆԱՅՈՒՆ

1	1	ԼԱՅ	†*	2.87	↗	N 1	
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B. — ԿԼԻՊՊՈՒԹ — ԻՆՆԱՅՈՒՆ

2	1	ԼԱՅՈՅ	†*		↗	P 1	ԼԹՈՒՍ P 4
3		ԼԱՅՈՅ	†*		↓	P 2	P 3
4		ԼԱՅՈՅ	†*		↓	P 3	
5		ԼԱՅՈՅ	†*		↘	P 4	
6		ԼԱՅՈՅ	†*		↗	P 5	
7		ԼԱՅՈՅ	†*	2.81	↖	N 2	ԼԹՈՒՍ ԹԱԳԱՄ
8	2	ԼԱՅՈ	†*		↘	P 6	
9	3	ԼԷ	†*	2.73	↘	N 3	

C. — ԿԼԻՊՊՈՒԹ — ԻՆՆԱՅՈՒՆ

10	1	ԼԱՅՈՅ	†*	2.91	↗	N 44	
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D. — ԿԵՐՈՂ ՈՒԹ — ԻՆՆՅԷ

I1	I	ՀԱՅՈՑ	†:*	↙	P7
I2		ՀԱՅՈՑ	†:*	↗ 2.88	N5

E. — ԿԵՐՈՂ ՈՒԹ — ԻՆՆՆԱՅԷ

I3	I	ՀԱՅՈՑ	†:*	←	P12
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F. — ԿԵՐՈՂ ՈՒԹ — ԻՆՆՆԱՅԷ

I4	I	ՀԱՅՈ	†:*	↗	P9
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G. — ԿԵՐՈՂ ՈՒԹ — ԻՆՆԱՅԷ

I5	I	ՀԱՅՈՑ	†:*	↙	P11
I6		ՀԱՅՈՑ	†:*	↓ 2.82	N6
I7		ՀԱՅՈՑ	†:*	↙	P8
I8		ՀԱՅՈՑ	†:*	↗ 2.81	N8
I9	2	ՀԱՅԻ	†:*	↘ 2.82	N7

P8 ԵԳԵԻՐ  
 N6 ԵԳԵԻՐ  
 յ \*

H. — ԿԵՐՈՂ ՈՒԹ — ԻՆՆՆԱՅԷ

I20	I	ՀԱՅՈ	†:*	↙	P10
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Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
						identical with	

GROUP II

Obv. Cross With Dot Rev. Lion Holding Cross

A. — 𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸 — 𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸

21	1	𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↓	P 14		
22		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	→	P 18		N 13
23		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↑	N 13		P 18
24		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↑	P 21		
25		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↗	N 11		
26		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↗	N 14		
27		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↘	N 12		
28		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↑	P 15		
29		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↘	N 21		
30	2	𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↘	P 22		

B. — 𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸 — 𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸

31	1	𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	?	←	P 17		
32	2	𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+	↗	N 9		N 10
33		𐌹𐌺𐌹𐌸𐌹𐌸𐌹𐌸𐌹𐌸	+		N 10		N 9

C. — ԿԵՐՈՂՈՒ—ԻՒՆՆԵՅ

34	Ի	ՆԵՅՈՅ	+	↖	P 16	
35		ՆԵՅՈՅ	+	↗	P 23	
36		ՆԵՅՈՅ	+	↓	N 19	N 15, N 16
37		ՆԵՅՈՅ	+	↙	N 15	N 19, N 16
38		ՆԵՅՈՅ	+	↘	N 16	N 19, N 15

D. — ԿԵՐՈՂՈՒ—ԻՒՆՆԵՅ

39	Ի	ՆԵՅՈՅ	+	↖	N 17	
40	2	ՆԵՅՈՅ	+	↗	N 18	
41	3	ՆԵՅ	+	↙	P 19	

E. — ԿԵՐՈՂՈՒ—ԹՒՆՆԵՅ

*	42	Ի	ՆԵՅՈՅ	+	↘	N 20
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TRANSITION PERIOD OF MIXED DIES

ԿԵՐՈՂՈՒ—ԻՒՆՆԵՅ

43		ՆԵՅՈՅ	+	↖	N 22	P 24
44		ՆԵՅՈՅ	+	↗	P 24	N 22

Lion Holding  
Cross

ԿԵՐՈՂՈՒ—ԹՒՆՆԵՅ

45		ՆԵՅ	✕	↑	P 25	
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Lion Walking

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
						identical with	

GROUP III

Obv. Cross With Dot Rev. Lion Walking

A. — ሂረዋሽ ወጥቶ — ትጥቅ ሂረዋሽ

46	1	፡ሂረዋሽ	፡፡	↖	P 26		
47	2	፡ሂረዋሽ	፡፡	↗	P 28	P 29	P 29, P 106a
48		፡ሂረዋሽ	፡፡	↗	P 29	P 28	P 28, P 106a
49	3	፡ሂረዋሽ	2.88	↑	N 25	P 30, P 31	
50	4	፡ሂረዋሽ	2.90	↑	N 24		
51	5	፡ሂረዋሽ		↗	P 27		
52		፡ሂረዋሽ		→	P 30	N 25, P 31	P 31
53		፡ሂረዋሽ		↗	P 31	N 25, P 30	P 30
54	6	፡ሂረዋሽ		↗	P 32		P 88
55		፡ሂረዋሽ	2.84	↗	N 23		

B. — ሂረዋሽ ወጥቶ — ትጥቅ ሂረዋሽ

56	1	፡ሂረዋሽ	፡፡	↖	P 33		
57		፡ሂረዋሽ	3.08	←	N 26		

C. — ԿԵՐՈՂՈՒԹ — ԻՆՆԱՅԵ

58	1	ԻՆՆ	+	↙	P 34		
59		ԻՆՆ	+	→	P 35		
60		ԻՆՆ	+	↗	N 27		N 154
61		ԻՆՆ	+	←	P 36	P 37, P 38, P 39, P 40	
62	2	ԻՆՆ	+	↗	P 37	P 36, P 38, P 39, P 40	
63	3	ԻՆՆ	+	↑	P 38	P 36, P 37, P 39, P 40	P 39, N 148
64		ԻՆՆ	+		P 39	P 36, P 37, P 38, P 40	P 38, N 141
65	4	ԻՆՆ	+	↖	P 40	P 36, P 37, P 38, P 39	P 76

D. — ԿԵՐՈՂՈՒԹ — ԹԻՒՆԱՅԵ

66	1	ԻՆՆ	+	↗	P 41	P 42	P 84, P 85, P 157, P 201
67	2	ԻՆՆ	+	↗	P 42	P 41	
68		ԻՆՆ	+	→	P 43		
69		ԻՆՆ	+	→	P 44		
70		ԻՆՆ	+	↖	N 69	N 50	N 36, P 181, N 50
71		ԻՆՆ	+	↗	N 50	N 69	N 69, N 42, P 178, P 179, P 43
72		ԻՆՆ	+	↖	P 146		P 45, P 96
73		ԻՆՆ	+	→	P 45	P 46, P 47	P 96, P 146
74	3	ԻՆՆ	+	↖	P 46	P 45, P 47	
75		ԻՆՆ	+	↗	P 47	P 45, P 46	
76	4	ԻՆՆ	+	↗	N 28		P 101



Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
						identical with	

E. — ԿԵՐՈՐԱՅՈՒ—ԹԻՒՆՆԱՅ

77	1	ՆԱՅ	2.88	↗	N 29	P 85	P 85, P 42, P 157, P 201
78		ՆԱՅ		↖	P 84	P 84	P 42, P 84, P 157, P 201
79		ՆԱՅ		↗	P 85		P 84, P 42, P 85, P 201
80		ՆԱՅ		↖	P 157		

F. — ԿԵՐՈՐԱՅՈՒ—ԹԻՒՆՆԱՅ I.

81	1	ՆԱՅՈՅ	↖	P 48	P 50, P 56	P 50	
82	2	ՆԱՅՈ	↖	P 49	P 49, P 56	P 49	
83		ՆԱՅՈ	↗	P 50			
84		ՆԱՅՈ	↗	P 51			
85	3	ՆԱՅՐ	↖	P 52	P 56, N 30, N 31, N 32, N 33	P 56, N 30, N 31, P 107	
86		ՆԱՅՐ	↗	P 53			
87		ՆԱՅՐ	↗	P 55	P 55, N 30, N 31, N 32, N 33	P 55, N 30, N 31, P 107	
88		ՆԱՅՐ	→	P 56			
89		ՆԱՅՐ	↖	P 57			

# HETOUM-ZABEL TRAMS

161

90	—U3P	—	—	2.81	↙	N 30	P 55, P 56, N 31, N 32, N 33, N 39	P 55, P 56, N 31, P 107
91	—U3P	—	—	2.80	←	N 31	P 55, N 36, N 30, N 32, N 33, N 39	P 55, P 56, N 30, P 107
92	—U3P	—	—	2.80	↓	P 54		
93	—U3P	—	—	2.80	←	N 32	N 30, N 31, P 55, P 56, N 33	
94	—U3P	—	—	2.90	→	N 33	N 30, N 31, P 55, P 56, N 32	
95	—U3P	—	—	2.77	↙	N 34		
96	—U3P	—	—		↙	P 58	P 59	N 53
97	—U3P	—	—		↗	P 59	P 58	P 60
98	—U3P	—	—		↗	P 60		
99	—U3P	—	—		↗	N 53		
100	—U3P	—	—		←	P 61	N 154	
101	—U3P	—	—	2.89	↙	N 154	P 61	
102	—U3P	—	—	3.03	↓	N 59		P 35
103	—U3P	—	—		↗	P 66		N 58, P 69, P 68
104	—U3P	—	—		↗	P 67		
105	—U3P	—	—		↙	P 62		P 81, P 82, P 87, N 45
106	—U3P	—	—	2.93	→	N 58		N 59, P 68, P 69
107	—U3P	—	—		↙	P 63		N 135
108	—U3P	—	—		↗	P 65		P 64, P 83, N 46
109	—U3P	—	—	2.79	↙	N 36		N 69, P 181

11 Notes VIII

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
110	⌊U3	⋮—		→	P 64		P 65, P 83, N 46
111	⌊U3	⋮—		→	P 68		P 69, N 58, N 59
112	⌊U3	?		→	P 69		P 68, N 58, N 59
113	6 ⌊U	⋈—	2.97	↙	N 39	P 55, P 56, N 31, N 32, N 33, N 30	
114	6 ⌊U	⋈—		↙	P 70		P 93
115	⌊U	⋈—		↑	P 71		
116	⌊U	⋈—		↗	P 72	P 73	P 73
117	⌊U	⋈—		↙	P 73	P 72	P 72
118	⌊U	⋈—	2.89	↙	N 38		
119	⌊U	⊠—		↘	P 74		P 91
120	⌊U	?		↑	P 75		
121	⌊U	⋈—	2.78	↗	N 37		
122	7 ⌊U	⋈—		↗	P 76		P 40

Գ. - ԿՆՈՒՄ ՈՒ-ՔԻՆԿՅԷՆՆԷ

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
123	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
124	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
125	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

III<sup>•</sup>

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
I49	⌊⌊⌊	⊗		↗	P 92		
I50	⌊⌊⌊	⌊⌊		↗	N 55		
I51	⌊⌊⌊	⌊⌊		→	P 93		
I52	⌊⌊⌊	⌊⌊		↘	N 87		
I53	⌊⌊⌊	⌊⌊		↗	N 86		
I54	⌊⌊⌊	⌊⌊		→	P 94		P 70
I. — 𐌲𐌹𐌶𐌹𐌸𐌰𐌶𐌰 — 𐌲𐌶𐌰𐌶𐌰							
I55	1 𐌊𐌊𐌊	⌊⌊		↗	P 95	P 96, P 100, P 101	𐌊𐌊𐌊𐌊
I56	2 𐌊𐌊𐌊	⌊⌊		↘	N 140		P 45, P 146
I57	𐌊𐌊𐌊	⌊⌊		↗	P 96	P 95, P 100, P 101	P 127
I58	𐌊𐌊𐌊	⌊⌊		↗	P 97		P 114
I59	𐌊𐌊𐌊	⌊⌊		←	P 204		P 126, P 128
I60	𐌊𐌊𐌊	⌊⌊	2.90	↘	N 136	N 137	N 152, P 194
I61	𐌊𐌊𐌊	⌊⌊	2.69	↘	N 137	N 136	N 137, N 152
I62	𐌊𐌊𐌊	⌊⌊		←	P 194		N 43, N 44
I63	𐌊𐌊𐌊	⌊⌊		↑	P 193		P 177
I64	𐌊𐌊𐌊	⌊⌊		→	P 98	N 135	
I65	𐌊𐌊𐌊	⊗	2.75	↘	N 135	P 98	P 63

166	⋮⋮⋮	→	P 201	P 84, P 85, P 42, P 157
167	⋮⋮⋮	↗	N 138	P 116
168	⋮⋮⋮	↖	P 99	P 47
169	⋮⋮⋮	↗	P 100	
170	⋮⋮⋮	↗	P 101	P 95, P 96, P 101
171	⋮⋮⋮	↗	P 102	P 95, P 96, P 100
172	⋮⋮⋮	↖	P 103	P 194
173	⋮⋮⋮	→	P 104	
174	⋮⋮⋮	↗	P 105	
175	⋮⋮⋮	↘	P 106	
176	⋮⋮⋮	↑	N 139	P 122

J. — ԿԵՐԿԿ, ՈՐ — ԹԻՆՆԱՅ

177	1	⋮⋮⋮		P 90
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K. — ԿԵՐԿԿ, ՈՐ — ԻՐՆՆԱՅԻ,

178	1	⋮⋮⋮	↘	P 106a	P 28, P 29
179	2	⋮⋮⋮	↖	N 143	
180	3	⋮⋮⋮	↗	P 107	
181		⋮⋮⋮	↗	P 108	
182		⋮⋮⋮	↑	N 144	N 145
183		⋮⋮⋮	→	N 145	N 144
184	4	⋮⋮⋮	↖	P 109	P 110

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
185	⌊L3	⌊L3		↙	P 110	P 109	
186	⌊L3	⌊L3		→	P 111	N 147, P 117, P 119, N 148, P 120, P 121	
187	⌊L3	⌊L3		↗	P 112	P 113	P 114, P 204
188	⌊L3	⌊L3		↖	P 113	P 112	
189	⌊L3	⌊L3		↘	P 114	P 115	P 112, P 204
190	⌊L3	⌊L3		↗	P 115	P 114	
191	⌊L3	⌊L3	2.86	↘	N 146		
192	5 ⌊L1	⌊L3		↘	P 116		P 99
193	6 ⌊L1	⌊L3		↑	P 117	P 111, N 147, P 119, N 148, P 120, P 121	N 147
194	⌊L1	⌊L3	2.89	↘	N 147	P 111, P 117, P 119, N 148, P 120, P 121	P 117
195	⌊L1	⌊L3	2.87	↗	P 118		
196	7 ⌊L1	⌊L3		↑	N 148	P 111, N 147, P 119, P 117, P 120, P 121	P 119, P 120, P 121
197	⌊L1	⌊L3		↘	P 119	P 111, N 147, P 117, N 148, P 120, P 121	N 148, P 119, P 121
198	⌊L1	⌊L3		↖	P 120	P 111, N 147, P 117, N 148, P 119, P 121	N 148, P 119, P 121





Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
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## P. — 𐤏𐤍𐤏𐤍𐤏 — 𐤏𐤍𐤏𐤍𐤏

210	1	𐤏𐤍𐤏𐤍𐤏	3.04	↗	N 142	N 141	P 38, P 39
211	2	𐤏𐤍𐤏𐤍𐤏	2.78	↘	N 141	N 142	

## GROUP IV

Obv. Plain Cross    Rev. Lion Walking

## A. — 𐤏𐤍𐤏𐤍𐤏𐤍𐤏 — 𐤏𐤍𐤏𐤍𐤏

212	1	𐤏𐤍𐤏𐤍𐤏𐤍𐤏	2.80	→	N 63	N 88	N 88
213		𐤏𐤍𐤏𐤍𐤏𐤍𐤏	2.97	↙	N 88		N 63
214	2	𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↗	P 128	P 129	P 129, P 165
215		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↗	P 129		P 128, P 165
216	3	𐤏𐤍𐤏𐤍𐤏𐤍𐤏		→	P 130		P 168a
217		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↙	P 131	P 132	P 132
218		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↙	P 132		P 131
219		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↗	P 133		
220		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↗	P 134		
221		𐤏𐤍𐤏𐤍𐤏𐤍𐤏		↗	P 135		N 80
222		𐤏𐤍𐤏𐤍𐤏𐤍𐤏	2.85	↙	N 74		P 225, P 226

Obverse  
Same  
Die

[illegible]

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
237	⌊⌊	+		↗	P 149	P 150, P 150a	P 148, P 150, P 149a
238	⌊⌊	+		↗	P 150	P 149, P 150a	P 148, P 149, P 149a
239	⌊⌊	+		↑	P 150a	P 149, P 150	
240	⌊⌊	+		↑	P 151	Obverse Die Same	P 154
241	⌊⌊	+		↘	P 152		
242	⌊⌊	+		↗	P 154		P 151
243	⌊⌊	+	2.98	↗	N 75		
244	3 ⌊⌊	+		↘	P 153		
245	4 ⌊⌊	+	2.98	←	N 51		

## E. — ሂረዎች ብቻ — ፊትና ምሽት

246	1	⌊⌊	⌊⌊	↗	P 155	P 156	N 83a
247		⌊⌊	⌊⌊	↗	P 156	P 155	
248		⌊⌊	⌊⌊	↗	P 157		
249	2	⌊⌊	⌊⌊	←	P 158		
250		⌊⌊	⌊⌊	↗	P 159		
251	3	⌊⌊	⌊⌊	↘	P 160		
252		⌊⌊	⌊⌊	↘	P 161		

F. — ԿԵՐՈՐԱՆՈՒ — ԹԻՒՆՆԵՐԻՆԻ

253	1	ԻՆՆՆՆ	+	—	→	P 163	N 82	N 82
254		ԻՆՆՆ	+	—	←	N 82	P 163	P 163
255	2	ԻՆՆՆ	+	?	↖	P 164		
256		ԻՆՆՆ	+	—	↗	P 165		P 128, P 129
257		ԻՆՆՆ	+	—	↘	N 72		
258		ԻՆՆՆ	+	—	↙	P 166	P 167	P 167
259		ԻՆՆՆ	+	—	↗	P 167	P 166	P 166
260	3	ԻՆՆՆ	+	—	↘	P 168		
261		ԻՆՆՆ	+	—	↙	P 168a	P 175, N 79, P 171	P 130
262		ԻՆՆՆ	+	—	↗	P 175	P 168a, N 79, P 171	
263		ԻՆՆՆ	+	—	↘	N 79	P 168a, P 175, P 171	
264		ԻՆՆՆ	+	—	↑	N 80		P 134
265		ԻՆՆՆ	+	—	↗	N 58a		
266		ԻՆՆՆ	+	—	↘	N 68a		
267		ԻՆՆՆ	+	—	→	N 64		N 74, P 190, P 141, P 142, P 175
268	4	ԻՆՆՆ	+	—	↖	P 170		
269		ԻՆՆՆ	+	—	↙	P 171	P 168a, P 175, N 79	
270	5	ԻՆՆՆ	+	—	↗	P 172	P 173	P 173
271		ԻՆՆՆ	+	—	↘	P 173	P 172	P 172
272		ԻՆՆՆ	+	?	↗	P 174		

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
G. — 𐎠𐎡𐎢𐎣𐎤𐎥𐎦𐎧𐎨𐎩𐎪𐎫𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿𐏀𐏁𐏂𐏃𐏄𐏅𐏆𐏇𐏈𐏉𐏊𐏋𐏌𐏍𐏎𐏏𐏐𐏑𐏒𐏓𐏔𐏕𐏖𐏗𐏘𐏙𐏚𐏛𐏜𐏝𐏞𐏟𐏠𐏡𐏢𐏣𐏤𐏥𐏦𐏧𐏨𐏩𐏪𐏫𐏬𐏭𐏮𐏯𐏰𐏱𐏲𐏳𐏴𐏵𐏶𐏷𐏸𐏹𐏺𐏻𐏼𐏽𐏾𐏿𐐀𐐁𐐂𐐃𐐄𐐅𐐆𐐇𐐈𐐉𐐊𐐋𐐌𐐍𐐎𐐏𐐐𐐑𐐒𐐓𐐔𐐕𐐖𐐗𐐘𐐙𐐚𐐛𐐜𐐝𐐞𐐟𐐠𐐡𐐢𐐣𐐤𐐥𐐦𐐧𐐨𐐩𐐪𐐫𐐬𐐭𐐮𐐯𐐰𐐱𐐲𐐳𐐴𐐵𐐶𐐷𐐸𐐹𐐺𐐻𐐼𐐽𐐾𐐿𐑀𐑁𐑂𐑃𐑄𐑅𐑆𐑇𐑈𐑉𐑊𐑋𐑌𐑍𐑎𐑏𐑐𐑑𐑒𐑓𐑔𐑕𐑖𐑗𐑘𐑙𐑚𐑛𐑜𐑝𐑞𐑟𐑠𐑡𐑢𐑣𐑤𐑥𐑦𐑧𐑨𐑩𐑪𐑫𐑬𐑭𐑮𐑯𐑰𐑱𐑲𐑳𐑴𐑵𐑶𐑷𐑸𐑹𐑺𐑻𐑼𐑽𐑾𐑿𐒀𐒁𐒂𐒃𐒄𐒅𐒆𐒇𐒈𐒉𐒊𐒋𐒌𐒍𐒎𐒏𐒐𐒑𐒒𐒓𐒔𐒕𐒖𐒗𐒘𐒙𐒚𐒛𐒜𐒝𐒞𐒟𐒠𐒡𐒢𐒣𐒤𐒥𐒦𐒧𐒨𐒩𐒪𐒫𐒬𐒭𐒮𐒯𐒰𐒱𐒲𐒳𐒴𐒵𐒶𐒷𐒸𐒹𐒺𐒻𐒼𐒽𐒾𐒿𐓀𐓁𐓂𐓃𐓄𐓅𐓆𐓇𐓈𐓉𐓊𐓋𐓌𐓍𐓎𐓏𐓐𐓑𐓒𐓓𐓔𐓕𐓖𐓗𐓘𐓙𐓚𐓛𐓜𐓝𐓞𐓟𐓠𐓡𐓢𐓣𐓤𐓥𐓦𐓧𐓨𐓩𐓪𐓫𐓬𐓭𐓮𐓯𐓰𐓱𐓲𐓳𐓴𐓵𐓶𐓷𐓸𐓹𐓺𐓻𐓼𐓽𐓾𐓿𐔀𐔁𐔂𐔃𐔄𐔅𐔆𐔇𐔈𐔉𐔊𐔋𐔌𐔍𐔎𐔏𐔐𐔑𐔒𐔓𐔔𐔕𐔖𐔗𐔘𐔙𐔚𐔛𐔜𐔝𐔞𐔟𐔠𐔡𐔢𐔣𐔤𐔥𐔦𐔧𐔨𐔩𐔪𐔫𐔬𐔭𐔮𐔯𐔰𐔱𐔲𐔳𐔴𐔵𐔶𐔷𐔸𐔹𐔺𐔻𐔼𐔽𐔾𐔿𐕀𐕁𐕂𐕃𐕄𐕅𐕆𐕇𐕈𐕉𐕊𐕋𐕌𐕍𐕎𐕏𐕐𐕑𐕒𐕓𐕔𐕕𐕖𐕗𐕘𐕙𐕚𐕛𐕜𐕝𐕞𐕟𐕠𐕡𐕢𐕣𐕤𐕥𐕦𐕧𐕨𐕩𐕪𐕫𐕬𐕭𐕮𐕯𐕰𐕱𐕲𐕳𐕴𐕵𐕶𐕷𐕸𐕹𐕺𐕻𐕼𐕽𐕾𐕿𐖀𐖁𐖂𐖃𐖄𐖅𐖆𐖇𐖈𐖉𐖊𐖋𐖌𐖍𐖎𐖏𐖐𐖑𐖒𐖓𐖔𐖕𐖖𐖗𐖘𐖙𐖚𐖛𐖜𐖝𐖞𐖟𐖠𐖡𐖢𐖣𐖤𐖥𐖦𐖧𐖨𐖩𐖪𐖫𐖬𐖭𐖮𐖯𐖰𐖱𐖲𐖳𐖴𐖵𐖶𐖷𐖸𐖹𐖺𐖻𐖼𐖽𐖾𐖿𐗀𐗁𐗂𐗃𐗄𐗅𐗆𐗇𐗈𐗉𐗊𐗋𐗌𐗍𐗎𐗏𐗐𐗑𐗒𐗓𐗔𐗕𐗖𐗗𐗘𐗙𐗚𐗛𐗜𐗝𐗞𐗟𐗠𐗡𐗢𐗣𐗤𐗥𐗦𐗧𐗨𐗩𐗪𐗫𐗬𐗭𐗮𐗯𐗰𐗱𐗲𐗳𐗴𐗵𐗶𐗷𐗸𐗹𐗺𐗻𐗼𐗽𐗾𐗿𐘀𐘁𐘂𐘃𐘄𐘅𐘆𐘇𐘈𐘉𐘊𐘋𐘌𐘍𐘎𐘏𐘐𐘑𐘒𐘓𐘔𐘕𐘖𐘗𐘘𐘙𐘚𐘛𐘜𐘝𐘞𐘟𐘠𐘡𐘢𐘣𐘤𐘥𐘦𐘧𐘨𐘩𐘪𐘫𐘬𐘭𐘮𐘯𐘰𐘱𐘲𐘳𐘴𐘵𐘶𐘷𐘸𐘹𐘺𐘻𐘼𐘽𐘾𐘿𐙀𐙁𐙂𐙃𐙄𐙅𐙆𐙇𐙈𐙉𐙊𐙋𐙌𐙍𐙎𐙏𐙐𐙑𐙒𐙓𐙔𐙕𐙖𐙗𐙘𐙙𐙚𐙛𐙜𐙝𐙞𐙟𐙠𐙡𐙢𐙣𐙤𐙥𐙦𐙧𐙨𐙩𐙪𐙫𐙬𐙭𐙮𐙯𐙰𐙱𐙲𐙳𐙴𐙵𐙶𐙷𐙸𐙹𐙺𐙻𐙼𐙽𐙾𐙿𐚀𐚁𐚂𐚃𐚄𐚅𐚆𐚇𐚈𐚉𐚊𐚋𐚌𐚍𐚎𐚏𐚐𐚑𐚒𐚓𐚔𐚕𐚖𐚗𐚘𐚙𐚚𐚛𐚜𐚝𐚞𐚟𐚠𐚡𐚢𐚣𐚤𐚥𐚦𐚧𐚨𐚩𐚪𐚫𐚬𐚭𐚮𐚯𐚰𐚱𐚲𐚳𐚴𐚵𐚶𐚷𐚸𐚹𐚺𐚻𐚼𐚽𐚾𐚿𐛀𐛁𐛂𐛃𐛄𐛅𐛆𐛇𐛈𐛉𐛊𐛋𐛌𐛍𐛎𐛏𐛐𐛑𐛒𐛓𐛔𐛕𐛖𐛗𐛘𐛙𐛚𐛛𐛜𐛝𐛞𐛟𐛠𐛡𐛢𐛣𐛤𐛥𐛦𐛧𐛨𐛩𐛪𐛫𐛬𐛭𐛮𐛯𐛰𐛱𐛲𐛳𐛴𐛵𐛶𐛷𐛸𐛹𐛺𐛻𐛼𐛽𐛾𐛿𐜀𐜁𐜂𐜃𐜄𐜅𐜆𐜇𐜈𐜉𐜊𐜋𐜌𐜍𐜎𐜏𐜐𐜑𐜒𐜓𐜔𐜕𐜖𐜗𐜘𐜙𐜚𐜛𐜜𐜝𐜞𐜟𐜠𐜡𐜢𐜣𐜤𐜥𐜦𐜧𐜨𐜩𐜪𐜫𐜬𐜭𐜮𐜯𐜰𐜱𐜲𐜳𐜴𐜵𐜶𐜷𐜸𐜹𐜺𐜻𐜼𐜽𐜾𐜿𐝀𐝁𐝂𐝃𐝄𐝅𐝆𐝇𐝈𐝉𐝊𐝋𐝌𐝍𐝎𐝏𐝐𐝑𐝒𐝓𐝔𐝕𐝖𐝗𐝘𐝙𐝚𐝛𐝜𐝝𐝞𐝟𐝠𐝡𐝢𐝣𐝤𐝥𐝦𐝧𐝨𐝩𐝪𐝫𐝬𐝭𐝮𐝯𐝰𐝱𐝲𐝳𐝴𐝵𐝶𐝷𐝸𐝹𐝺𐝻𐝼𐝽𐝾𐝿𐞀𐞁𐞂𐞃𐞄𐞅𐞆𐞇𐞈𐞉𐞊𐞋𐞌𐞍𐞎𐞏𐞐𐞑𐞒𐞓𐞔𐞕𐞖𐞗𐞘𐞙𐞚𐞛𐞜𐞝𐞞𐞟𐞠𐞡𐞢𐞣𐞤𐞥𐞦𐞧𐞨𐞩𐞪𐞫𐞬𐞭𐞮𐞯𐞰𐞱𐞲𐞳𐞴𐞵𐞶𐞷𐞸𐞹𐞺𐞻𐞼𐞽𐞾𐞿𐟀𐟁𐟂𐟃𐟄𐟅𐟆𐟇𐟈𐟉𐟊𐟋𐟌𐟍𐟎𐟏𐟐𐟑𐟒𐟓𐟔𐟕𐟖𐟗𐟘𐟙𐟚𐟛𐟜𐟝𐟞𐟟𐟠𐟡𐟢𐟣𐟤𐟥𐟦𐟧𐟨𐟩𐟪𐟫𐟬𐟭𐟮𐟯𐟰𐟱𐟲𐟳𐟴𐟵𐟶𐟷𐟸𐟹𐟺𐟻𐟼𐟽𐟾𐟿𐠀𐠁𐠂𐠃𐠄𐠅𐠆𐠇𐠈𐠉𐠊𐠋𐠌𐠍𐠎𐠏𐠐𐠑𐠒𐠓𐠔𐠕𐠖𐠗𐠘𐠙𐠚𐠛𐠜𐠝𐠞𐠟𐠠𐠡𐠢𐠣𐠤𐠥𐠦𐠧𐠨𐠩𐠪𐠫𐠬𐠭𐠮𐠯𐠰𐠱𐠲𐠳𐠴𐠵𐠶𐠷𐠸𐠹𐠺𐠻𐠼𐠽𐠾𐠿𐡀𐡁𐡂𐡃𐡄𐡅𐡆𐡇𐡈𐡉𐡊𐡋𐡌𐡍𐡎𐡏𐡐𐡑𐡒𐡓𐡔𐡕𐡖𐡗𐡘𐡙𐡚𐡛𐡜𐡝𐡞𐡟𐡠𐡡𐡢𐡣𐡤𐡥𐡦𐡧𐡨𐡩𐡪𐡫𐡬𐡭𐡮𐡯𐡰𐡱𐡲𐡳𐡴𐡵𐡶𐡷𐡸𐡹𐡺𐡻𐡼𐡽𐡾𐡿𐢀𐢁𐢂𐢃𐢄𐢅𐢆𐢇𐢈𐢉𐢊𐢋𐢌𐢍𐢎𐢏𐢐𐢑𐢒𐢓𐢔𐢕𐢖𐢗𐢘𐢙𐢚𐢛𐢜𐢝𐢞𐢟𐢠𐢡𐢢𐢣𐢤𐢥𐢦𐢧𐢨𐢩𐢪𐢫𐢬𐢭𐢮𐢯𐢰𐢱𐢲𐢳𐢴𐢵𐢶𐢷𐢸𐢹𐢺𐢻𐢼𐢽𐢾𐢿𐣀𐣁𐣂𐣃𐣄𐣅𐣆𐣇𐣈𐣉𐣊𐣋𐣌𐣍𐣎𐣏𐣐𐣑𐣒𐣓𐣔𐣕𐣖𐣗𐣘𐣙𐣚𐣛𐣜𐣝𐣞𐣟𐣠𐣡𐣢𐣣𐣤𐣥𐣦𐣧𐣨𐣩𐣪𐣫𐣬𐣭𐣮𐣯𐣰𐣱𐣲𐣳𐣴𐣵𐣶𐣷𐣸𐣹𐣺𐣻𐣼𐣽𐣾𐣿𐤀𐤁𐤂𐤃𐤄𐤅𐤆𐤇𐤈𐤉𐤊𐤋𐤌𐤍𐤎𐤏𐤐𐤑𐤒𐤓𐤔𐤕𐤖𐤗𐤘𐤙𐤚𐤛𐤜𐤝𐤞𐤟𐤠𐤡𐤢𐤣𐤤𐤥𐤦𐤧𐤨𐤩𐤪𐤫𐤬𐤭𐤮𐤯𐤰𐤱𐤲𐤳𐤴𐤵𐤶𐤷𐤸𐤹𐤺𐤻𐤼𐤽𐤾𐤿𐥀𐥁𐥂𐥃𐥄𐥅𐥆𐥇𐥈𐥉𐥊𐥋𐥌𐥍𐥎𐥏𐥐𐥑𐥒𐥓𐥔𐥕𐥖𐥗𐥘𐥙𐥚𐥛𐥜𐥝𐥞𐥟𐥠𐥡𐥢𐥣𐥤𐥥𐥦𐥧𐥨𐥩𐥪𐥫𐥬𐥭𐥮𐥯𐥰𐥱𐥲𐥳𐥴𐥵𐥶𐥷𐥸𐥹𐥺𐥻𐥼𐥽𐥾𐥿𐦀𐦁𐦂𐦃𐦄𐦅𐦆𐦇𐦈𐦉𐦊𐦋𐦌𐦍𐦎𐦏𐦐𐦑𐦒𐦓𐦔𐦕𐦖𐦗𐦘𐦙𐦚𐦛𐦜𐦝𐦞𐦟𐦠𐦡𐦢𐦣𐦤𐦥𐦦𐦧𐦨𐦩𐦪𐦫𐦬𐦭𐦮𐦯𐦰𐦱𐦲𐦳𐦴𐦵𐦶𐦷𐦸𐦹𐦺𐦻𐦼𐦽𐦾𐦿𐧀𐧁𐧂𐧃𐧄𐧅𐧆𐧇𐧈𐧉𐧊𐧋𐧌𐧍𐧎𐧏𐧐𐧑𐧒𐧓𐧔𐧕𐧖𐧗𐧘𐧙𐧚𐧛𐧜𐧝𐧞𐧟𐧠𐧡𐧢𐧣𐧤𐧥𐧦𐧧𐧨𐧩𐧪𐧫𐧬𐧭𐧮𐧯𐧰𐧱𐧲𐧳𐧴𐧵𐧶𐧷𐧸𐧹𐧺𐧻𐧼𐧽𐧾𐧿𐨀𐨁𐨂𐨃𐨄𐨅𐨆𐨇𐨈𐨉𐨊𐨋𐨌𐨍𐨎𐨏𐨐𐨑𐨒𐨓𐨔𐨕𐨖𐨗𐨘𐨙𐨚𐨛𐨜𐨝𐨞𐨟𐨠𐨡𐨢𐨣𐨤𐨥𐨦𐨧𐨨𐨩𐨪𐨫𐨬𐨭𐨮𐨯𐨰𐨱𐨲𐨳𐨴𐨵𐨶𐨷𐨹𐨺𐨸𐨻𐨼𐨽𐨾𐨿𐩀𐩁𐩂𐩃𐩄𐩅𐩆𐩇𐩈𐩉𐩊𐩋𐩌𐩍𐩎𐩏𐩐𐩑𐩒𐩓𐩔𐩕𐩖𐩗𐩘𐩙𐩚𐩛𐩜𐩝𐩞𐩟𐩠𐩡𐩢𐩣𐩤𐩥𐩦𐩧𐩨𐩩𐩪𐩫𐩬𐩭𐩮𐩯𐩰𐩱𐩲𐩳𐩴𐩵𐩶𐩷𐩸𐩹𐩺𐩻𐩼𐩽𐩾𐩿𐪀𐪁𐪂𐪃𐪄𐪅𐪆𐪇𐪈𐪉𐪊𐪋𐪌𐪍𐪎𐪏𐪐𐪑𐪒𐪓𐪔𐪕𐪖𐪗𐪘𐪙𐪚𐪛𐪜𐪝𐪞𐪟𐪠𐪡𐪢𐪣𐪤𐪥𐪦𐪧𐪨𐪩𐪪𐪫𐪬𐪭𐪮𐪯𐪰𐪱𐪲𐪳𐪴𐪵𐪶𐪷𐪸𐪹𐪺𐪻𐪼𐪽𐪾𐪿𐫀𐫁𐫂𐫃𐫄𐫅𐫆𐫇𐫈𐫉𐫊𐫋𐫌𐫍𐫎𐫏𐫐𐫑𐫒𐫓𐫔𐫕𐫖𐫗𐫘𐫙𐫚𐫛𐫜𐫝𐫞𐫟𐫠𐫡𐫢𐫣𐫤𐫦𐫥𐫧𐫨𐫩𐫪𐫫𐫬𐫭𐫮𐫯𐫰𐫱𐫲𐫳𐫴𐫵𐫶𐫷𐫸𐫹𐫺𐫻𐫼𐫽𐫾𐫿𐬀𐬁𐬂𐬃𐬄𐬅𐬆𐬇𐬈𐬉𐬊𐬋𐬌𐬍𐬎𐬏𐬐𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬝𐬞𐬟𐬠𐬡𐬢𐬣𐬤𐬥𐬦𐬧𐬨𐬩𐬪𐬫𐬬𐬭𐬮𐬯𐬰𐬱𐬲𐬳𐬵𐬶𐬷𐬸𐬹𐬺𐬻𐬼𐬽𐬾𐬿𐭀𐭁𐭂𐭃𐭄𐭅𐭆𐭇𐭈𐭉𐭊𐭋𐭌𐭍𐭎𐭏𐭐𐭑𐭒𐭓𐭔𐭕𐭖𐭗𐭘𐭙𐭚𐭛𐭜𐭝𐭞𐭟𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱𐭲𐭳𐭴𐭵𐭶𐭷𐭸𐭹𐭺𐭻𐭼𐭽𐭾𐭿𐮀𐮁𐮂𐮃𐮄𐮅𐮆𐮇𐮈𐮉𐮊𐮋𐮌𐮍𐮎𐮏𐮐𐮑𐮒𐮓𐮔𐮕𐮖𐮗𐮘𐮙𐮚𐮛𐮜𐮝𐮞𐮟𐮠𐮡𐮢𐮣𐮤𐮥𐮦𐮧𐮨𐮩𐮪𐮫𐮬𐮭𐮮𐮯𐮰𐮱𐮲𐮳𐮴𐮵𐮶𐮷𐮸𐮹𐮺𐮻𐮼𐮽𐮾𐮿𐯀𐯁𐯂𐯃𐯄𐯅𐯆𐯇𐯈𐯉𐯊𐯋𐯌𐯍𐯎𐯏𐯐𐯑𐯒𐯓𐯔𐯕𐯖𐯗𐯘𐯙𐯚𐯛𐯜𐯝𐯞𐯟𐯠𐯡𐯢𐯣𐯤𐯥𐯦𐯧𐯨𐯩𐯪𐯫𐯬𐯭𐯮𐯯𐯰𐯱𐯲𐯳𐯴𐯵𐯶𐯷𐯸𐯹𐯺𐯻𐯼𐯽𐯾𐯿𐰀𐰁𐰂𐰃𐰄𐰅𐰆𐰇𐰈𐰉𐰊𐰋𐰌𐰍𐰎𐰏𐰐𐰑𐰒𐰓𐰔𐰕𐰖𐰗𐰘𐰙𐰚𐰛𐰜𐰝𐰞𐰟𐰠𐰡𐰢𐰣𐰤𐰥𐰦𐰧𐰨𐰩𐰪𐰫𐰬𐰭𐰮𐰯𐰰𐰱𐰲𐰳𐰴𐰵𐰶𐰷𐰸𐰹𐰺𐰻𐰼𐰽𐰾𐰿𐱀𐱁𐱂𐱃𐱄𐱅𐱆𐱇𐱈𐱉𐱊𐱋𐱌𐱍𐱎𐱏𐱐𐱑𐱒𐱓𐱔𐱕𐱖𐱗𐱘𐱙𐱚𐱛𐱜𐱝𐱞𐱟𐱠𐱡𐱢𐱣𐱤𐱥𐱦𐱧𐱨𐱩𐱪𐱫𐱬𐱭𐱮𐱯𐱰𐱱𐱲𐱳𐱴𐱵𐱶𐱷𐱸𐱹𐱺𐱻𐱼𐱽𐱾𐱿𐲀𐲁𐲂𐲃𐲄𐲅𐲆𐲇𐲈𐲉𐲊𐲋𐲌𐲍𐲎𐲏𐲐𐲑𐲒𐲓𐲔𐲕𐲖𐲗𐲘𐲙𐲚𐲛𐲜𐲝𐲞𐲟𐲠𐲡𐲢𐲣𐲤𐲥𐲦𐲧𐲨𐲩𐲪𐲫𐲬𐲭𐲮𐲯𐲰𐲱𐲲𐲳𐲴𐲵𐲶𐲷𐲸𐲹𐲺𐲻𐲼𐲽𐲾𐲿𐳀𐳁𐳂𐳃𐳄𐳅𐳆𐳇𐳈𐳉𐳊𐳋𐳌𐳍𐳎𐳏𐳐𐳑𐳒𐳓𐳔𐳕𐳖𐳗𐳘𐳙𐳚𐳛𐳜𐳝𐳞𐳟𐳠𐳡𐳢𐳣𐳤𐳥𐳦𐳧𐳨𐳩𐳪𐳫𐳬𐳭𐳮𐳯𐳰𐳱𐳲𐳳𐳴𐳵𐳶𐳷𐳸𐳹𐳺𐳻𐳼𐳽𐳾𐳿𐴀𐴁𐴂𐴃𐴄𐴅𐴆𐴇𐴈𐴉𐴊𐴋𐴌𐴍𐴎𐴏𐴐𐴑𐴒𐴓𐴔𐴕𐴖𐴗𐴘𐴙𐴚𐴛𐴜𐴝𐴞𐴟𐴠𐴡𐴢𐴣𐴤𐴥𐴦𐴧𐴨𐴩𐴪𐴫𐴬𐴭𐴮𐴯𐴰𐴱𐴲𐴳𐴴𐴵𐴶𐴷𐴸𐴹𐴺𐴻𐴼𐴽𐴾𐴿𐵀𐵁𐵂𐵃𐵄𐵅𐵆𐵇𐵈𐵉𐵊𐵋𐵌𐵍𐵎𐵏𐵐𐵑𐵒𐵓𐵔𐵕𐵖𐵗𐵘𐵙𐵚𐵛𐵜𐵝𐵞𐵟𐵠𐵡𐵢𐵣𐵤𐵥𐵦𐵧𐵨𐵩𐵪𐵫𐵬𐵭𐵮𐵯𐵰𐵱𐵲𐵳𐵴𐵵𐵶𐵷𐵸𐵹𐵺𐵻𐵼𐵽𐵾𐵿𐶀𐶁𐶂𐶃𐶄𐶅𐶆𐶇𐶈𐶉𐶊𐶋𐶌𐶍𐶎𐶏𐶐𐶑𐶒𐶓𐶔𐶕𐶖𐶗𐶘𐶙𐶚𐶛𐶜𐶝𐶞𐶟𐶠𐶡𐶢𐶣𐶤𐶥𐶦𐶧𐶨𐶩𐶪𐶫𐶬𐶭𐶮𐶯𐶰𐶱𐶲𐶳𐶴𐶵𐶶𐶷𐶸𐶹𐶺𐶻𐶼𐶽𐶾𐶿𐷀𐷁𐷂𐷃𐷄𐷅𐷆𐷇𐷈𐷉𐷊𐷋𐷌𐷍𐷎𐷏𐷐𐷑𐷒𐷓𐷔𐷕𐷖𐷗𐷘𐷙𐷚𐷛𐷜𐷝𐷞𐷟𐷠𐷡𐷢𐷣𐷤𐷥𐷦𐷧𐷨𐷩𐷪𐷫𐷬𐷭𐷮𐷯𐷰𐷱𐷲𐷳𐷴𐷵𐷶𐷷𐷸𐷹𐷺𐷻𐷼𐷽𐷾𐷿𐸀𐸁𐸂𐸃𐸄𐸅𐸆𐸇𐸈𐸉𐸊𐸋𐸌𐸍𐸎𐸏𐸐𐸑𐸒𐸓𐸔𐸕𐸖𐸗𐸘𐸙𐸚𐸛𐸜𐸝𐸞𐸟𐸠𐸡𐸢𐸣𐸤𐸥𐸦𐸧𐸨𐸩𐸪𐸫𐸬𐸭𐸮𐸯𐸰𐸱𐸲𐸳𐸴𐸵𐸶𐸷𐸸𐸹𐸺𐸻𐸼𐸽𐸾𐸿𐹀𐹁𐹂𐹃𐹄𐹅𐹆𐹇𐹈							

288			$\swarrow$	N 65	P 189, P 190, P 195
289			$\uparrow$	P 195	P 189, P 190, N 65
290			$\swarrow$	P 191	
291			$\uparrow$	P 192	
292			$\downarrow$	P 188	
293			$\swarrow$	N 65	
294			$\uparrow$	N 83a	
295			$\swarrow$	P 196	P 198
296			$\leftarrow$	P 198	P 196
297			$\leftarrow$	P 197	P 199
298			$\swarrow$	P 199	P 197
299			$\nearrow$	P 200	
300			$\nearrow$	P 201	P 202
301			$\swarrow$	P 202	P 201
302			$\swarrow$	P 203	
303			$\swarrow$	P 205	
304			$\swarrow$	P 206	
305			$\swarrow$	P 207	
306			$\swarrow$	P 208	P 210
307			$\nearrow$	P 210	P 208
308			$\swarrow$	P 209	P 211, P 216
309			$\nearrow$	P 211	P 209, P 216
310			$\swarrow$	P 212	P 213
311			$\rightarrow$	P 213	P 212

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
312	4	⌞	2.86	↗	P 214	N 89, N 84, N 78	N 89, N 84, N 78
313	⌞	⌞	2.86	↗	N 89	P 214, N 84, N 78	P 214, N 84, N 78
314	⌞	⌞	2.92	↑	N 84	P 214, N 89, N 78	P 214, N 89, N 78
315	⌞	⌞	3.04	↓	N 78	P 214, N 89, N 78	P 214, N 89, N 78
316	⌞	⌞	2.85	↑	N 81		
317	5	⌞		↘	P 215		
318	⌞	⌞		↗	P 216		P 211, P 209
319	⌞	⌞		↗	P 217		

## I. — 𐎠𐎡𐎢𐎣𐎤 — 𐎠𐎡𐎢𐎣𐎤

320	1	𐎠𐎡𐎢𐎣𐎤	⌞	↗	P 218		
321	𐎠𐎡𐎢𐎣𐎤	?		↗	P 219		
322	𐎠𐎡𐎢𐎣𐎤	⌞	2.86	↑	N 60	N 76	N 76
323	𐎠𐎡𐎢𐎣𐎤	⌞	2.93	↑	N 76	N 60	N 60
324	2 𐎠𐎡𐎢𐎣𐎤	?		↘	P 220		
325	3 𐎠𐎡𐎢𐎣𐎤	⌞		↘	P 221	P 224	
326	𐎠𐎡𐎢𐎣𐎤	⌞		↘	P 224	P 221	
327	𐎠𐎡𐎢𐎣𐎤	⌞		↗	P 222	P 223, N 73	
328	𐎠𐎡𐎢𐎣𐎤	⌞		↗	P 223	P 222, N 73	
329	𐎠𐎡𐎢𐎣𐎤	⌞	2.89	↘	N 73		

\*

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Coin Number	Variety	Cross Design	Weight Gms.	Dio Position	Hoard Coin Number	Obverse	Reverse
M. — ԿԵՐՈՂՈՒԹՐՆԵԱՅԻ,							
349	1 ԼԵՅ	✕		↗	P 241		
N. — ԿԵՐՈՂՈՒԹՐՆԵԱՅՈ							
350	1 ԼԵՅ	⊞	2.96	↘	N 57		
GROUP V							
Obv. Plain Cross Rev. Star Under Lion							
A. — ԿԵՐՈՂՈՒԹՐՆԵԱՅԻ,							
351	1 ԼԵՅ	⊞	2.95	↙	N 90		
352	2 ԼԵՅ	⊞	2.90	↙	N 91		
B. — ԿԵՐՈՂՈՒԹՐՆԵԱՅԻ,							
353	1 ԼԵՅ	⊞	2.60	↓	N 92		
354	2 ԼԵՅ	⊞	2.75	↘	N 153		ԹԵԳԱՄԻՐ
C. — ԿԵՐՈՂՈՒԹՐՆԵԱՅ							
355	1 ԼԵՅ	⊞	2.87	↗	N 93		

12 Notes VIII

D. — ԿԵՐՈՐԱՅՈՒ—ԹԻՆԵՅ									
356	1	⋈	—	2.84	↖	N 98	N 97, N 101, N 102	N 97	
357		⋈	—	2.90	↗	N 97	N 98, N 101, N 102	N 98	
358	2	⋈	—	3.00	↓	N 101	N 98, N 97, N 102		
359		⋈	—	2.72	→	N 102	N 98, N 97, N 101		
360	3	—ՈՐՀԵ	—	2.84	↗	N 100			ԹԵԳԵԼԻՈՐ
361		—ՈՐՀԵ	—	2.92	↗	N 69			ԹԵԳԵԼԻՈՐ
362		—ՈՐՀԵ	—	3.03	←	N 99			ԹԵԳԵԼԻՈՐ

E. — ԿԵՐՈՐԱՅՈՒ—ԹԻՆԵՅ

363	1	⋈	+	2.76	↖	N 94	
364		⋈	+	3.04	↑	N 96	
365	2	No ⋈	+	2.89	→	N 95	

\*

F. — ԿԵՐՈՐԱՅՈՒ—ԹԻՆԵՅԻ;

366	1	—ՈՐ(No ⋈)	⋈	2.75	↗	N 103		ԹԵԳԵԼԻՈՐ
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GROUP VI

*Obv.* Plain Cross *Rev.* No Cross and Star Under Lion

A. — ԿԵՐՈՐԱՅՈՒ—ԹԻՆԵՅԻ;

367	1	⋈	+	2.73	↗	N 104		ԹԵԳԵԼԻՈՐ
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Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
B. — ԿԵՐՈՐԱՅԻ — ԹԻՒՆ ԵՅ							
368	1 -ՈՐ (No 1)	+	2.66	↗	N 106		ԹԵԳԵԼԻՈՐ
369	-ՈՐ (No 2)	+	3.03	↓	N 105		ԹԵԳԵԼԻՈՐ
C. — ԿԵՐՈՐԱՅԻ — ԹԻՒՆ ԵՅ							
* 370	1 -ՈՐ 1	+	2.82	↖	N 108		ԹԵԳԵԼԻՈՐ
371	2 -ՈՐ (No 2)	+	2.79	↗	N 107		ԹԵԳԵԼԻՈՐ
372	-ՈՐ (No 3)	✕	3.01	↗	N 109		ԹԵԳԵԼԻՈՐ
D. — ԿԵՐՈՐԱՅԻ — ԻԹԻՒՆ ԵՅ							
373	1 -ՈՐ (No 1)	+	2.94	↖	N 110		ԹԵԳԵԼԻՈՐ
GROUP VII							
Obv. Plain Cross Rev. No Cross and No Star Under Lion							
A. — ԿԵՐՈՐԱՅԻ — ԹԻՒՆ ԵՅ Ի,							
374	1 1	+	2.83	↖	N 111	N 114, N 115	ԹԵԳԵԼԻՈՐ 1
375	2 2	+	2.81	↗	N 114	N 111, N 115	ԹԵԳԵԼԻՈՐ 1
376	2 -ՈՐ (No 2)	+	2.86	↖	N 115	N 111, N 114	ԹԵԳԵԼԻՈՐ

ፊ. \*

ፊ. *	377	378	379	-በ(No.) ?	+	2.72 2.97 2.63	↗ ↑ ↘	N 113 N 116 N 112	ፊ. ሂ. ሂ. ሂ.
B. — ከሂሳብ ስራ—ፊ. ሂ. ሂ. ሂ.									
	380	381	382	1 ሂ. ሂ.	+	2.75	↑	N 117	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	2.82	↗	N 118	ፊ. ሂ. ሂ. ሂ.
	383	384	385	3 ሂ.	+	2.84	↗	N 119	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	3.08	→	N 120	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	2.72	←	N 121	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	2.81	↖	N 122	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	2.87	↓	N 133	ፊ. ሂ. ሂ. ሂ.
				ፊ. ሂ.	+	2.62	↘	N 131	ፊ. ሂ. ሂ. ሂ.
	388	389	390	4 -በ(No.) -በ(No.) -በ(No.)	+	2.60 2.70 2.77	↑ ↗ ↗	N 123 N 128 N 130	ፊ. ሂ. ሂ. ሂ.

Coin Number	Variety	Cross Design	Weight Gms.	Die Position	Hoard Coin Number	Obverse	Reverse
391	-00 (No 1)	+	2.88	↑	N 129		
392	5 -0 (No 2)	+	2.86	↗	N 125	N 132	identical with
393	-0 (No 3)	+	2.81	↖	N 132	N 125	identical with
394	-0 (No 4)	+	2.79	↗	N 124	N 127, N 126	identical with
395	-0 (No 5)	+	2.99	↖	N 127	N 124, N 126	identical with
396	-0 (No 6)	+	2.99	↖	N 126	N 124, N 127	identical with

C. — ԿԼԻՊԻՆՈՒՄ — ԹԻՒՆ ԱՅԻՒՆ

397	1 -0 (No 1)	+	2.66	↗	N 134	
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LAST ISSUE

GROUP VII Type but Bearing Name LEVON

A. — ԿԼԻՊԻՆՈՒՄ — ԹԻՒՆ ԱՅԻՒՆ

398	1 ԶԱՅ	+	2.96	↖	N 129	ԼԵՎՈՆԹԵՐԱԿԻՍԻՍ ԶԱՅ
399	2 ԶԱՅ	+		↗	N	ԼԵՎՈՆԹԵՐԱԿԻՍԻՍ ԶԱՅ

+ 7 ANS Hoard Not Deciphered

+ 37 Poladian Hoard Not Deciphered

443 Total

PAUL BEDOUKIAN

## A GERMAN MEDAL OF HENRY VIII OF ENGLAND

(SEE PLATE XXXX)

The American Numismatic Society has recently acquired from the estate of the late Wayte Raymond a very handsome silver portrait medal of King Henry VIII of England. The medal was originally owned by John Pierpont Morgan and can be traced back to the Bieber and Montagu collections which were sold by Sotheby, London in 1889 and 1897 respectively. The description follows:

*Obv.* Bust bearded,, in fancy, laced costume with broad, puffed hat between date, · REX · ANGLIE ·

*Rev.* Crowned portcullis, the badge of the Beaufort-Tudor family, on two chains, · SECVRITAS · ALTERA · 59mm. 82.6 gr.

Georg Habich, *Die deutschen Schaumünzen des XVI. Jahrhunderts*, Munich, 1929, I, p. 15, no. 56 and plate VI, 10; *Helbings Monatshefte*, III, p. 75, plate 36; H. A. Grueber, *Medallic Illustrations*, p. 31, no. 17; L. Forrer, *Biographical Dictionary of Medallists*, VII, p. 209; Georg Habich, "Studien zur deutschen Renaissancemedaille," *Jahrbuch der königlichen Preussischen Kunstsammlungen*, Vol. 28, pp. 261–263.

The medal is the work of Hans Daucher, an Augsburg sculptor and medallist, born about 1485. He received his citizenship and a license as a master of the guild at Augsburg in 1514. Credit for the re-discovery of his long forgotten name must go to Wilhelm von Bode, who found his name on a stone relief in the collection of the Dukes of Hohenzollern. Daucher was one of the first German artists to apply his talents and experiences gained as a sculptor to medallic form. The earliest German medals were created around 1520 under the influence of Italian artists, who for more than half a century—since Pisanello's introduction of the medal as a new art form—produced great quantities of inspiring medals, mostly to satisfy the vanity of the ruling classes. The German medal in contrast is lacking the grandiose design, but excels in the execution of the minutest details. Our Daucher medal is one of the earliest *en face* medals, a technique rather alien to medallic art and certainly influenced by the art of

painting. The idea for this medal might have been inspired by a miniature of Hans Holbein in the Windsor castle.

The occasion for the creation of the medal is obscure. It is dated 1526, and there is no reason to believe that this is not the year in which Hans Daucher designed the medal. The most noteworthy event in English-German relations during that year was the shipping of 6000 copies of the New Testament translated into English to England. William Tyndale, an English reformer had these New Testaments printed in Worms, Germany. They caused a tremendous impact on English religious life. Therefore the Lutherans of Germany hoped at that time that they might find a new brother-in-arms in King Henry VIII, who considered for awhile the possibility of a political and a theological alliance with the Lutheran princes of Germany. Tyndale's work was not merely a translation of the Bible but it came as part of the Lutheran movement. Henry VIII was on several occasions inclined to listen to the proposals of the threatened Lutheran princes, especially since Emperor Charles V had become too powerful an antagonist of the ambitions of the English crown.

The reverse side of the medal shows the portcullis, which is the badge of the Beaufort family, named after a French castle in Anjou. The meaning of the inscription *Securitas altera* is not immediately apparent. Earlier scholars believed that this legend expresses the Lutherans' hope for an "additional supporter" to their cause in the person of King Henry VIII. This theory, however, must be discarded inasmuch as this inscription was adopted by Henry VIII as his official motto. It alludes to his blocking up the seas. His strengthening of the English maritime forces later enabled his daughter Elizabeth to give the death blow to Spanish naval supremacy.

Some doubts with regard to the authenticity of this medal have been expressed by experts in the field of German Renaissance medals. Habich in his corpus refers to five specimens which came to his attention. The first one is a uniface specimen in lead in the Munich collection. This lead specimen is 3 mm. larger in diameter and has been the basis of Habich's publications. Dr. P. Grottemeyer, the curator of the Munich collection, believes that the Munich specimen is the oldest and possibly the only contemporary one. His opinion is based on the larger size of the Munich specimen and its finer and sharper

form of lettering. He expressed the opinion that any two-faced medal with the portcullis reverse must be dated after 1620. This theory is open to question for the simple reason that the portcullis design appears on the portcullis crown<sup>1</sup> issued in 1600 by Queen Elizabeth I for the use of the East India Company. The specimen in the British Museum is an electrotpe apparently copied from one in the Vienna collection, according to a reference in the description of the medal by H. A. Grueber in his *Medallic Illustrations*. Dr. Eduard Holzmaier informs me that the Bundessammlung von Medaillen, Münzen und Geldzeichen in Vienna owns the double faced specimen referred to by Grueber. He also is of the opinion that the reverse side of the medal, showing the portcullis, is a later addition. His opinion is based on a second uniface specimen in the Vienna collection which is cast in bronze. Holzmaier states that this bronze copy makes a better impression due to its more delicate treatment of the costume.

Habich mentions a third specimen in the trade and a fourth in the W. Douglas collection in Edinburgh, neither of which I have had an opportunity to study. Our specimen, originally in the Bieber collection of 1889, seems to be the second surviving one with the portcullis reverse. Although our example is somewhat smaller in size and differs from the Munich specimen in the design of the king's costume, I believe it to be a very early, if not contemporary, cast.

HENRY GRUNTHAL

<sup>1</sup> James Atkins, *The Coins and Tokens of the Possessions and Colonies of the British Empire*, p. 179, no. 1.





## RICHARD WAGNER IN MEDALLIC ART: A SUPPLEMENT

Since publication of my article "Richard Wagner in Medalllic Art" in the *Centennial Publication of the American Numismatic Society* quite a few medals, hitherto unknown to me, have come to my attention through the courtesy of various German collectors. I am particularly indebted to Mr. Richard van Rey of Aachen, Germany, who checked his large collection of Wagner medals against my catalogue. Van Rey owns no less than fourteen medals which had evaded my search. He has supplied me with the essential information which makes it possible for me to publish these medals. Variations of and additional information about medals in my catalogue came from various individuals. I am indebted to all these gentlemen and wish to thank them for their gracious efforts in a common cause.

In order to facilitate the use of this supplementary catalogue I have numbered the new medals to indicate where they should have been listed in the original catalogue.

- 13a. Uniface square iron plaque 1882 by Breitzkopf, Cosel, cast by the Lauchhammer works. Bust right, RICH. WAGNER IM JAHRE 1882 above, BREITKOPF, COSEL below. *Rev.* Lauchhammer punch. 90 × 80 mm.
- 35a. Square plaque 1904 by Johann Greiner. Bust left, RICH. WAGNER below, on the truncation of the arm JOH. GREINER / 04. 120 × 75 mm.
- 35b. Medal 1912 by M. Schlofhorst. Bust left, below the lapel M. SCHLOFHORST 1912. *Rev.* LEIPZIG VENEDIG, musical score below, RICHARD WAGNER in facsimile, below in three lines MUNCHEN / BAYREUTH / 1813-1913. 37 mm.
- 38. Medal 1913 by Karl Goetz commemorating the centennial of his birth exists also in the smaller size of 36 mm.
- 38a. Medal 1913 by Wilhelm Goetze commemorating the centennial of his birth. Bust left within laurel wreath RICHARD WAGNER

100. GEBURTSTAG. *Rev.* Nude man with harp, in the left field EHRT / EURE / DEUTSCHEN MEISTER, in the right field DANN BANNT / IHR / GUTE / GEISTER, W.G. below. Edge lettering C. POELLATH. SCHROBENHAUSEN. 83mm.
- 38b. Medal 1913 by Miocof, Munich commemorating the centennial of his birth. Head right. *Rev.* Fountain on three steps between two peacocks, RICHARD WAGNER above, MIOCOF MUENCHEN below, ERINNERUNGS / FEIER MAI / 1813-1913 in exergue. 22mm.
- 41b. Medal 1928 by Karl Goetz exists also in the reduced sizes of 65mm. and 35mm. respectively.
- 41c. Uniface cast medal 1933 by Max Bezner commemorating the 50th year of his death. Head left, RICHARD / WAGNER / 1813-1883 in three lines in the field, on the truncation of the neck MAX BEZNER 1933. 177mm.
- 42a. Medal 1933 by Karl Goetz exists also in smaller 36mm. with the following reverse: Woman with skull and laurel branch kneeling to right 50. TODESTAG 13. FEB. 1933.
- 42b. Medal 1933 by Professor Anton Grath, Vienna commemorating the 50th year of his death. Bust left, in the left field RICHARD WAGNER, near the neck ANT. / GRATH. *Rev.* RICHARD WAGNER / GEDENKJAHR / 1813-1933 between two olive trees. Edge lettering C. POELLATH SCHROBENHAUSEN. 60mm.
- 44aa. Uniface medal 1934 by Hans Zeissig. Head left RICHARD WAGNER / NATIONAL DENKMAL / IN LEIPZIG GRUNDSTEINLEGUNG / 6. 3. 1934 /, on the truncation of the neck: ZEISSIG. 95mm.
- 45a. Medal without date by Karl Goetz. Busts of Wagner and king Ludwig II practically facing. *Rev.* View of Neuschwanstein castle. 36mm.
47. Uniface medal without date by A. Hartig (1953) exists also in reduced size of 40mm.
- 47a. Medal without date by Professor Arnold Hartig, Vienna. Bust left \* RICHARD WAGNER \* 1813-1883, A. HARTIG under the truncation of the bust. *Rev.* Lyre MEISTER DER MUSIK. 25mm. Issued in gold only and struck by the mint in Stuttgart.

- 47b. Uniface medal without date by Huguenin, mint in Le Locle, Switzerland. Bust left, a lyre with palm branch below to the right, in the left field RICHARD WAGNER, in the right field 1813/1883. The medal exists in the following sizes 150, 100, 50, 40, 30, 25, 20 & 16mm. Uniface square strikings are also known 53 × 37 and 30 × 24mm.
48. Uniface rectangular plaque without date by Heinrich Kautsch exists also in the following reduced sizes 30 × 20 and 15 × 9mm.
- 72a. Medal without date by C. Seffner. Bust right, C. SEFFNER on the truncation of the neck. *Rev.* Inscription in five lines WAS DEUTSCH UND / ECHT, WÜSST KEINER / MEHR, LEBT-S NICHT / IN DEUTSCHER / MEISTER EHR, below (MEISTERSINGER). 50mm.
- 72b. Medal without date by Splieth. Head left, SPLIETH on the truncation of the neck. *Rev.* Wotan seated to left, WOTA-N in large letters above. 50mm.
- 73a. Medal without date by A. Stockman, description of which is not available.
76. The artist of this medal is Paul Wissaert. Compare the *A.N.S. Catalogue of Contemporary medals*, 1910, page 366,10.
- 78a. Uniface medal without date by Professor Jan Wysocki. Head right between RICHARD – WAGNER, J. WYSOCKI on the truncation of the neck. 100mm.
- 81a. Uniface medal without date from the studio of the goldsmith school in Prague. Bust left without legend. 41mm. A. & E. 970.
84. The artist of this medal is Paul Börner in Meissen.
85. The artist of this medal is Paul Börner in Meissen.
87. The artist of this medal is L. Bazor. The medal should therefore carry the number 44c in my original catalogue.
89. The artists of this medal are Thenn and Kauba.

HENRY GRUNTHAL



## NATIONALISTIC MYTHS IN THE WEIMAR REPUBLIC: AN ICONOGRAPHIC STUDY

(SEE PLATES XLI–XLIII)

The satirical medal has been in almost constant use as a most effective means of expression by some government, body of men, or individual since it was inaugurated on a large scale with the issue of a series of anti-Papal pieces during the Reformation. Whenever events have stirred the deepest emotions in men there has been a concomitant peak reached in the number of satirical medals which have appeared. The Reformation called forth the anti-Papal specimens of the sixteenth century in all their vulgarity; the French defeat at Sedan in the Franco–Prussian War occasioned not only a series of struck and cast pieces but even some hand-tooled specimens made by altering coins.

Never, however, was the satirical medal more popular than during the grim days of the First World War and the post-War period. All of the combatants made use of this vehicle for propaganda at home and abroad, but the satirical medal achieved particular significance in Germany where many of the best known sculptors, medallists, and die-sinkers created specimens to satisfy the ever-increasing demand.<sup>1</sup>

The most active of the German medallists engaged in answering the public clamor for such satirical pieces was Karl Götz. Born on

<sup>1</sup> On these commemorative satirical medals see J. Menadier, "Der Geist der deutschen Schaumünze zur Zeit des Weltkrieges," *Blätter für Münzfreunde*, LII (1917), pp. 201–216, 225–238, 245–249; Max Bernhart, *Kriegsmedaillen bayerischer Künstler* (München, 1915); and George F. Hill, *The Commemorative Medal in the Service of Germany* (London, 1917). The most extensive catalogue of the satirical pieces of the various powers engaged in the First World War is to be found in M. Frankenhuis, *Collection M. Frankenhuis. Catalogue of Medals, Medalets and Plaques Relative to the World War 1914–1918* (Enschede, Holland, n.d.). The older Dutch edition, *Collectie M. Frankenhuis. Medailles, Medaillons, Penningen en Plaquettes met betrekking tot den Wereldkrijg 1914–1918. Catalogus der Verzameling M. Frankenhuis* (Enschede, Holland, n.d.), is not as complete as the English edition. All references are, therefore, given to the English edition with those to the Dutch edition, wherever possible, placed in parentheses immediately following.

June 28, 1875 in Augsburg, Götz studied in Augsburg, Berlin, and Utrecht in the Netherlands. He then spent five years in Paris. He began his active career as a medallist in Munich in 1905 with a piece in bronze and silver in honor of the Emperor Louis of Bavaria. This was followed by a prolific series, which, before his death on September 8, 1950, numbered some 650 pieces. Götz was awarded the Silver State Medal at the International Medallic Exposition at Geneva, and posthumously a similar medal at the World Exposition held in Madrid in 1951.

The striking nature of Götz's art was first exhibited by his medal commemorating his marriage on April 27, 1912 to Margarete Stangl of Augsburg. A bronze oval, 47 × 60 mm., showing Götz facing front and a profile of his wife in the obverse was joined with a reverse depicting a centaur, obviously representing Götz, with a nude woman representing his wife perched on his back. In the field to the left was the coat of arms of Augsburg while in the right field there was a representation of the Munich child in swaddling clothes symbolizing the union of the two cities in this marriage.<sup>2</sup>

Götz achieved real prominence during World War I when he began his successful series of satirical medals lampooning the Allies and commemorating various events. By far the most successful and effective of these little propaganda pieces was devoted to the sinking of the *Lusitania*. From an artistic standpoint it is not comparable with many other designs even of a satirical character which came from Götz's studio, but it certainly caused the greatest furor of any piece. It may be briefly described:

<sup>2</sup> A virtually complete manuscript list of medals by Karl Götz can be found in the Library of the American Numismatic Society. This manuscript list will hereafter be referred to as "Götz". A medal showing a profile of Margarete Götz by her husband is illustrated in Max Bernhart, *Die Münchener Medaillenkunst der Gegenwart* (München and Berlin, 1917), Plate 20, no. 137. In addition, Karl Götz issued a self-portrait at the age of sixty in 1935. Götz was mentioned very briefly in the first edition of L. Forrer, *Biographical Dictionary of Medallists* (London, 1904), II, p. 286, as a "contemporary Die-sinker whose signature I have seen in conjunction with that of Schwenzer on a medal commemorating the Sixth Centenary of the University of Heidelberg, and on a Portrait-medal of Prof. Dr. Virchow." Specimens of Götz's work may be found in the Münzkabinett in Munich, the Kaiser Friedrich Museum in Berlin, the German Museum at Nuremberg, the Vienna Museum, the American Numismatic Society, and other museums.

*Obv.* Death is represented as a booking clerk at a window in the office of the Cunard Line selling tickets to a throng of passengers one of whom holds a newspaper with the words "*U Boot Gefahr*" (Submarine Danger). Above the window are the words "*Cunard Linie*" (Cunard Line), below the window "*Fahrkarten Ausgabe*" (Booking Office), and along the side of the window in a vertical band is the name "CUNARD." A bearded man in a top hat in the crowd with his index finger raised in warning apparently represents a German official who is being ignored by the crowd. Across the top is the semi-circular legend "*Geschäft Über Alles*" (Business Above All). In the exergue K. G.

*Rev.* The *Lusitania*, loaded with munitions and aircraft, is shown sinking stern first into the Atlantic. Above are the words "*Keine Bannware*" (No Contraband). Below is the inscription "*Der Grossdampfer / – Lusitania – / durch ein deutsches / Tauchboot versenkt / 5 Mai 1915*" (The liner *Lusitania* sunk by a German submarine, 5 May 1915).<sup>3</sup>

Actually the *Lusitania* was sunk on May 7, 1915, and the British were quick to seize upon this discrepancy to draw sinister deductions. It is to the eternal credit of George F. Hill, that even during the war he wrote, "But it must be doubted whether the German naval authorities would have confided their intentions to Herr Götz in Munich, although it is quite possible that he may have begun his design at the time when the impudent German warning to intending passengers was published in the American Press."<sup>4</sup> Nevertheless, the British use of this medal in the form of reproductions for anti-German propaganda and Lord Balfour's mention of it in a speech gave it much greater notoriety than other pieces commemorating the same event.<sup>5</sup> In German eyes this piece "castigated the levity of mind of the

<sup>3</sup> Hill, *op. cit.*, p. 24, fig. 11. The medal described by Frankenhuis, *op. cit.*, no. 1428 (696), is a later imitation with a corrected date.

<sup>4</sup> Hill, *op. cit.*, p. 23.

<sup>5</sup> Cf. Frankenhuis, *op. cit.*, no. 641. This is a medal by L. Gies issued to commemorate the same event but bearing the correct date. Another medal by W. Eberbach, one of his "Dance of Death" series, deals with the same event. See Frankenhuis, *op. cit.*, no. 1477 (748).



Cunard Line" and was a celebration of a naval victory to be contemplated with joyful pride.<sup>6</sup> For German children it was a prized possession, and it was traded zealously for more valuable objects.

Götz, of course, tried to undo some of the damage done by the incorrect date by lampooning the English propaganda and the speech of Lord Balfour in a second satirical piece.<sup>7</sup> Needless to say, this did not put an end to the propaganda barrage by the British, and even after the war the *Lusitania* medal was still being distributed in England and the United States at cut-rate prices with inflammatory literature to show the barbarous nature of the Germans.<sup>8</sup>

Götz's reputation as a medallist, however, was firmly established by this unique piece and its predecessors. Critics of medallic art discussed his work which was really the best of the entire school of satirists which was then flourishing. These cast pieces of fifty-eight or sixty millimeters, which had to be produced very quickly to retain their topical interest, show that he was a first-rate designer with an excellent sense for the use of a round or oval field to the best advantage. His satirical pieces were compared with his earlier work of a more serious nature. Max Bernhart felt that his earlier work, like that

<sup>6</sup> "Gemeint ist eine der gegossenen Spottmünzen von Karl Götz in München, die den Leichtsinn der Cunard-Linie geißelt [sic]." This is quoted by Hill, *op. cit.*, p. 22, from the *Blätter für Münzfreunde*, LI (1916), p. 136, which was the organ of the Dresden Numismatic Club and the Bavarian Numismatic Society. A circular of anti-German character issued after the Armistice in 1918 by Sandstrom and Mahood of Warren, Pennsylvania, offering copies of this medal for sale at a cost of fifty cents each or three for a dollar as well as three dollars for a dozen, quotes the *Kölnische Volkszeitung* of May 10, 1915, as saying, "With joyful pride we contemplate this latest victory of our Navy." J. Menadier, "Der Geist der deutschen Schaumünze zur Zeit des Weltkrieges," *Blätter für Münzfreunde*, LII (1917), pp. 245-246, speaks very highly of the *Lusitania* medal, but it must be remembered that during the war Menadier is supposed to have greeted visitors to the Berlin museum with the phrase "*Gott strafe England*" which is found on so many smaller pieces and even some larger medals.

<sup>7</sup> Frankenhuis, *op. cit.*, no. 1451 (720).

<sup>8</sup> See note 6. One of the authors purchased a copy as late as 1939 in the Caledonia Market in London. The legend on the box reads: "The *Lusitania* (German) Medal: An exact replica of the medal which was designed in Germany and distributed to commemorate the sinking of the *Lusitania*. This indicates the true feeling the War Lords endeavour to stimulate, and is proof positive that such crimes are not merely regarded favourably, but are given every encouragement in the land of Kultur."

of his contemporaries, was under French influence because it was produced during a period when it was believed that only French medals were worthy of recognition and all who undertook medallic art earnestly studied in France. His later work, principally satirical, according to Bernhart, took on a more Germanic character and was less susceptible to foreign influences. Bernhart thought it worthy of high praise.<sup>9</sup>

Hill, on the other hand, also discerned two styles in Götz's work. The first of these he felt was intended to appeal to those familiar with Renaissance art, particularly German art of the sixteenth century. The second style he exemplified by the *Lusitania* medal and dismissed briefly by saying, "... it corresponds to the satirical print, and makes no attempt at composition, but simply crowds into the space available all the details that it is thought will amuse the public."<sup>10</sup> This is probably somewhat harsh and does not do full justice to a medallist who merited seven pages in Forrer's *Dictionary of Medallists* in 1923.<sup>11</sup>

The importance of Götz's work for the historian, however, rests not so much on the satirical medals issued during the war, for which a great many parallels among all the combatant nations can be found, but on the series of post-war pieces of like nature commenting upon contemporary events and lampooning prominent figures. A large and representative collection of these pieces exists in the cabinet of the American Numismatic Society in New York; some purchased in 1922 and others presented by the late Wayte Raymond in 1934. After World War I very few medallists continued to issue satirical pieces, and the field was largely monopolized by Götz. From his hand a continuous stream of medals poured forth in the form of reasonably priced castings in base metals which were purchased by innumerable Germans and carried in their pockets to display to one another. The overwhelming importance of these medals of the Weimar period as a historical source lies in the fact that they provide a deeper insight into the German view of the course of history. Within this series of medals the elements of the older nationalistic and a new mythology are combined in iconographic terms. It was this new mythology which was to dominate German history in the thirties and forties.

<sup>9</sup> Max Bernhart, *Kriegsmedaillen bayerischer Künstler*, pp. 9-10.

<sup>10</sup> Hill, *op. cit.*, p. 26.

<sup>11</sup> L. Forrer, *Biographical Dictionary of Medallists*, VII, pp. 379-386.

Götz's personal role loomed in heroic proportions as he continued to comment on the current scene and historic events. There were advantages which he enjoyed that no other German political satirist could claim; the medallic productions were apparently uncensored at a time when other means of expression were controlled. The necessity for issuing these cast pieces as quickly as possible so that they would retain their topical interest meant that they were primarily expressions of emotion rather than of well-planned intellectual effort. The popularity of the medals indicated that Götz read, or better still shared, the sentiments of most Germans, but since he was a creative artist, he was able to give these emotions the most complete expression. In another sense he was also a moulder of public opinion and one of the creators of the new mythology which was to be treated as historical reality during the Nazi regime. His medals followed hard upon the events themselves, and even if the sympathies of the German people had already been stirred, it was Götz, and others like him, who helped shape these emotions.

Imperial Germany, with Prussia at its head, had a political mythology of its own which, to be sure, had undergone changes during the history of the empire, but which had maintained its absolute values and supported the imperial throne and its incumbent. History and reality were bent to accord with this imperial mythology. The defeat of 1918, however, had made the concepts of the empire and the emperor no longer tenable. A series of medals by Götz in the last year of World War I shows the glorification of Bismarck, his prophetic vision, and the decline of royal prestige. Nevertheless, before any new mythology could be created the older one had to be cast aside and the ground levelled in preparation for the changed edifice. The core of German nationalism had to be saved without its great symbol, the emperor. William II was the perfect subject for the destruction of the older concept. Unlike the brave hero, William had not chosen to die sword in hand on the steps to his throne as German nationalists such as von Bülow would have desired.<sup>12</sup> He had instead written a terse note to his son, abdicated, and fled the country.

<sup>12</sup> Cf. Prince Bernhard von Bülow, *Memoirs of Prince von Bülow*, trans. by Geoffrey Dunlop (Boston, 1932), III, p. 322. William II afterwards insisted that he had abdicated and fled to Holland upon the advice of Field Marshal

The flight of the Kaiser at the end of the war and the question of war guilt affected most Germans very deeply, but their comments on this question in the current literature had to be somewhat guarded. Götz, however, took a leading role in the destruction of the Kaiser image. In a piece issued in 1918, Götz showed *Germania* casting out the Kaiser for ineptness while the reverse depicted William II on the wall at Amerongen and Bismarck standing in a garden below the wall with a whip hidden behind his back. Bismarck addresses William II in the Berlin dialect asking him to come down from his perch with the obvious intention of punishing him.<sup>13</sup> The incapacity of the Kaiser as a ruler was obvious to all Germany, and Götz issued a full series of medals castigating William II as a deserter and a poor emperor in virtually the same terms utilized by von Bülow. On a medal dated November 9, 1918, commemorating the flight of the Kaiser to Amerongen, Frederick the Great is seen pinching William's ear while the unruly monarch calls out "*Mais Monsieur.*" On the reverse of this piece William's uniform hangs with a sign draped across the chest reading "William the Deserter." In the background the gallows with which the former monarch had been threatened can be seen with the hangman's noose.<sup>14</sup>

Still another medal commemorative of the same event compares the greatness of Germany in 1871 with the disappearance of the ruler. The scene in the Hall of Mirrors at Versailles in 1871 is shown and above it the inscription "O Ancient Imperial Grandeur." The reverse shows the head of a pig which has been designed to resemble the face of the Kaiser with the inscription "Where have you disappeared."<sup>15</sup> On still another piece the Kaiser is represented riding a hobby horse in a warlike attitude with upraised sword calling out, "I will lead

von Hindenburg that this was "the last possible way out." On the afternoon of November 9, 1918, von Hindenburg handed the Kaiser a note signed by himself which said: "I cannot take the responsibility for Your Majesty's being carried away to Berlin by mutinous troops, there to be handed over as a prisoner to the revolutionary Government. On that account I must advise Your Majesty to go to Holland." (Quoted in Joachim von Kurenborg, *The Kaiser: A Life of Wilhelm II, Last Emperor of Germany*, trans. by H. T. Russell and Herta Hagen (New York, 1955), p. 372.

<sup>13</sup> Götz, 258. "*Wilhelm soll'st mal runter kommen.*"

<sup>14</sup> Götz, 233.

<sup>15</sup> Götz, 239. "*O alte Kaiserherrlichkeit / wohin bist du entschwunden.*"

you." On the reverse the results of his leadership are shown in the form of a one-legged soldier grinding an organ as a beggar while his wife and children follow him in the streets. The inscription on this side of the medal, "Towards Glorious Times" is merely the continuation of that on the obverse.<sup>16</sup>

Certainly one of the most interesting of those medals referring to William II is the piece which shows the Bavarian viewpoint of the artist. The obverse depicts William II writing one of his famous "Dear Nicky" letters to Czar Nicholas II while the reverse shows Dr. Eisenbart, the prototype of the medical quack in German literature, diagnosing the cause of the imperial foolishness in the words, "He is not mad, but a Berliner."<sup>17</sup> William II as the symbol of Prussia and Berlin as well as an incompetent ruler brought forth the scorn of many Germans from all parts of the country.

Germany, however, was not doomed, for even though the naval mutineers are shown on one medal rudely expelling the Kaiser, the obverse of that same piece symbolized Germany as a sturdy oak standing in a storm and the date is November 9, 1918.<sup>18</sup> Even more striking is the medal showing the Allied powers binding the fallen German hand and foot while in the exergue is the inscription "Foch's turn to speak." The reverse pictures a number of raised fists, and it bears the inscription "A nation of 70 millions suffers—but does not die."<sup>19</sup>

The contrast between the figure of William II as the incompetent destroyer of the empire and Bismarck, the hero, was patent. It was utilized to the fullest advantage as the starting point for the new mythology. The timing was perfect because it was just twenty years since the death of the Iron Chancellor. On the obverse of one medal the head of the Chancellor was shown issuing from the clouds with the quotation, "Twenty years after my death I will arise from my tomb to see whether or not Germany stands in honor before the world." The answer, of course, is given on the reverse where a horse

<sup>16</sup> Götz, 238. "*Ich führe euch / herrlichen Zeiten entgegen.*" William II actually used this expression in a speech. Cf. Joachim von Kürenberg, *op. cit.*, p. 155.

<sup>17</sup> Götz, 257. "*Nicht geisteskrank aber Berliner.*"

<sup>18</sup> Götz, 232; Frankenhuis, *op. cit.*, no. 1484.

<sup>19</sup> Götz, 215; Frankenhuis, *op. cit.*, no. 1439. This piece refers specifically to the Armistice.

symbolic of government, is being mounted by a male figure which represents revolution, while in the foreground Germania turns from the scene and covers her eyes to shut out this grim view. On the ground can be seen the imperial crown and sword, and the date 1918 runs across the top of the piece.<sup>20</sup>

Barbed lampoons continued to be launched against the Kaiser even in his privileged exile. In 1921 William II was represented approaching the Netherlands Tax Office, hat in hand, announcing that he was only a poor man with one and a half millions. This side of the medal is labelled "Appearance." The reverse is labelled "And Reality," and shows the royal figure in the form of a king in a deck of playing cards encompassing a treasure labelled as "160 millions in gold."<sup>21</sup> In the same year the third volume of Bismarck's *Reflections and Reminiscences*, a part of which was particularly critical of the former Kaiser, was published. All Germany was entranced by the section which heaped ridicule and scorn on the former Kaiser. The contrast between the great Chancellor and the inept monarch was once again utilized. Bismarck had shown his disapproval of William II by choosing as his epitaph the words, "A True German Servant Of The Emperor William I;" the third volume of his *Gedanken und Erinnerungen* was more specific as to the reasons for this dislike. The natural result was that earlier the Imperial Court had forbidden its publication. When it did finally appear, Götz showed the book bound in chains beside the imperial crown with the inscription, "Bismarck's legacy to the German people." The reverse shows the German Michel, the representation of the good simple German, pushed back from the volume by a figure clad in the judicial robes of the Empire with the legend, "Not for you Germans."<sup>22</sup>

<sup>20</sup> Götz, 216; Frankenhuis, *op. cit.*, no. 1491. "20 Jahre nach meinem Tode will ich aufstehen aus meinem Sarge um zu sehen ob Deutschland in Ehren vor der Welt bestanden hat oder nicht."

<sup>21</sup> Götz, 277. "Schein / und Sein."

<sup>22</sup> Götz, 278. The name "Michel" is the popular form for the personification of the ordinary German, corresponding to John Bull in England and Uncle Sam in the United States. He is generally depicted as a good-natured simpleton, who allows anyone to take advantage of him. The figure betrays a deep trend of self-pity in German popular consciousness; the feeling that the Germans are constantly being stepped upon by other peoples. Grimm's *Wörterbuch* defines it as the "Designation of an honest, well-meaning, but awkward and intellec-

When, however, the Kaiser was identified with Germany on the question of war guilt, as the newly created myth required that he be, he was exonerated of the principal blame even though he remained an object of derision. Thus Russia, John Bull, and France are pictured on a medal standing around a powder keg with the inscription, "The Designedly Guilty for the War," while on the reverse William II seated on a bag of sixty million gold marks is proclaimed "The Unintentionally Guilty."<sup>23</sup>

The entire question of war guilt was a very live issue in post-war Germany and stirred German emotions to the deepest degree. In two pieces Götz makes specific reference to it. On a medal of 1919 Clemenceau is shown in the guise of a schoolmaster questioning the Kaiser's sons about the origins of the war; all spring forward to confess their guilt (PLATE XLI, 1). On the reverse, which bears the inscription "The Loafer Called Before the Court," Bethmann-Hollweg is shown with his hand raised as though to testify before Clemenceau, Lloyd George, and Wilson, and he says in Berlin dialect, "Mr. Criminal Judges, I am reporting" (*Herr Kriminell, ick melde mir*). There is, however, a double nuance in this form of expression which would be improper in a German criminal court. The first words of the expression would seem to be addressed to the court, much after the use of "Your Honor" in American practice. Thus Götz seems to indicate, as had been done on the earlier medal, that the true criminals are seated in judgement.<sup>24</sup>

The last of the medals dealing with war guilt is somewhat poignant in its approach, but it is still obvious as another step in the creation of the myth of a world which placed its hatred of Germany above truth. It is oval in shape, and the obverse is devoted to a triumphal

usually limited person," and yields references to the use of the term in that sense as early as the middle of the sixteenth century. The substance of the concept of the Michel is, of course, to be found even earlier in Luther's *Address to the Christian Nobility of the German Nation*. One of the earliest and most effective representations of the figure is to be found in the character of Simplicius Simplicissimus in a novel of the Thirty Years' War, *Die abenteuerliche Simplicissimus*, by Grimmelshausen. Götz made constant use of the Michel in his post-war medals, always showing him with a sleeping cap.

<sup>23</sup> Götz, 235. "*Die absichtlich Schuldigen des Weltkriegs / Der unabsichtlich Schuldige.*"

<sup>24</sup> Götz, 237.

procession showing the bound Kaiser following a chariot driven by Clemenceau beating a drum (PLATE XLI, 2). Following the former ruler is an obviously Negroid soldier. Above this is found the word CIRCENSES, an obvious reference to the Roman motto *Panem et circenses*. In the exergue there is the Latin inscription *Mundus vult decipi ergo decipiat* (The world wishes to be deceived, therefore let it be fooled).<sup>25</sup> The reverse shows the German generals and admirals led off into captivity by the French and English with the inscription above reading "Oh! Germany, High In Honor." At the rear of the procession we see the stricken German eagle standing on a perch labelled "Articles 227 and 230," the so-called "Honor Clauses," which arraigned the Kaiser and other German leaders as war criminals. Below the entire scene is the inscription "The revenge of the enemy is filled with hate."<sup>26</sup>

The events surrounding the end of the war itself and the separatist communist republic in Bavaria inspired still another genre of Götze medals which illustrated his loyalty to the local royal family and hatred of the communists who would rend Germany apart in the service of foreigners. The Bavarian Revolution is portrayed in the form of Death in a Bavarian costume crashing through the gates while holding the scales of justice in its hand. One of the gates is labelled 1180, the date on which the Wittelsbach family acquired possession of Bavaria, and the other is inscribed "*Verfassung 1818*," obviously referring to the establishment of the liberal constitution in that year. On the reverse Curt Eisner is shown mounted on a lion trying to put a sleeping cap on the lion's head. Eisner himself is labelled in royal fashion "Curt Eisner I" and a circular inscription, purportedly from Eisner, reads, "And I am Prime Minister."<sup>27</sup> The cowardice of the king's bodyguard and the actual departure of the royal family formed the subject for another medal which expressed the deep sympathy of the artist.<sup>28</sup> A concomitant of this feeling of affection for the Wittelsbachs, however, was a hatred for the red republic which was expressed in a third medal on the subject. Levin,

<sup>25</sup> This expression is attributed to Cardinal Caraffa in the sixteenth century but it occurs in many languages in various forms perhaps at even earlier dates.

<sup>26</sup> Götze, 231. "*Der Gegner hasserfüllte Rache.*"

<sup>27</sup> Götze, 214. "*Und Ministerpräsident bin ich.*"

<sup>28</sup> Götze, 222.



Teller, and Mühsam were shown in caricature on one side while Eisner danced with the barbarous Russian Lenin to the tune of the "Internationale" on the other. The cry "Out of the Reich" which Götz placed upon this latter scene was sufficient to mark the foreign character of the new political entity.<sup>29</sup> Another facet, the hatred of left-wing political groups, was thus added to the new mythology.

More important than the transient Bavarian Republic, however, was the establishment of the Weimar Republic itself. This was the milieu within which the new mythology was to be created. It was the successor state; democratic in structure, it was supposed to fulfill Wilson's dream of a Germany freed from absolutism. It was impossible for any German to be completely indifferent to the new state, but who was to mold the sentiments of the people? Götz's response to this new entity which had been born in the disgrace of national defeat displays a cynicism which can only be suspected as evoking a similar attitude among the German people from the very moment of the creation of the Republic. The censored literature does not, and indeed it cannot, show the depth of the contempt which the Germans felt for the democratic Republic from the very beginning. It was misunderstood, unwanted, and unloved. Its popularity, if any, was limited to the few intellectuals while the masses had their emotional response mirrored in these medals. The Weimar Republic was doomed from the moment on November 9, 1918 when it was proclaimed in the New Market at Cologne. The Götz medal commemorating the event has a classic obverse showing Father Rhine below and the scene in the New Market above (PLATE XLI, 3). The reverse, however, portrays the young mediaeval soldier of Cologne standing with shield and lance while on either side there is a bit of doggerel in the Cologne dialect:

Hold fast Amril  
Thou Cologne youth  
Whether it turns out  
Sweet or sour.<sup>30</sup>

<sup>29</sup> Götz, 234. "*Los vom Reich.*"

<sup>30</sup> Götz, 275. "*Halt fass Amril  
Do Kölsche Boor  
Mag et falle  
Söss ov soor.*"

A more vitriolic comment on the establishment of the Republic was forthcoming in 1919 (PLATE XLI, 4). On the obverse *Gallia* was pictured snuffing out the broken imperial eagle which was fitted with a face resembling that of the former monarch. In the exergue the motto of the French Republic was rendered in German, *Freiheit, Gleichheit, Brüderlichkeit*. On the reverse two washwomen were shown laboring over a laundry tub while at the top there was a representation of the National Assembly at Weimar. A bit of alliterative doggerel, such as was popular in German poetry of a much earlier period, separates these two parts of the design and expresses the tone of the medal.

We washwomen of Weimar,  
Besotted with folly,  
Are washing week-in and week-out  
The revolting dirty laundry of vile adversaries,  
As if the savage raging of World War  
were of little importance.<sup>31</sup>

The German of the post-War period could hardly refrain from comparing the old Empire with the new Republic always to the disparagement of the younger state. From the moment of the creation of the Weimar Republic, the scorn which attached to William II for his incompetence was fastened upon his successors in power as upstarts. This, too, was to be part of the new mythology. On one piece commemorating the assumption of power by Ebert the obverse is devoted to a lampoon of William II wearing a fool's cap and reading the Golden Book of Munich in which it is written, "The highest law is the will of the king" (*Summa lex regis voluntas*) (PLATE XLI, 5). Across the upper portion of the medal is a paraphrase of the Old Testament: "Obey my commandments so that I shall be your God and you will be my people." The reverse depicts Ebert, who is shown in a business suit on a throne, about to be crowned with the cap of the German Michel and labelled in regal fashion "Ebert I." The reverse legend is the natural continuation of that on the obverse: "But they did not

<sup>31</sup> Götz, 218. "*Wir Weimarer Waschweiber waschen wochenlang wahnbetört wüster Widersacher widerliche Wäsche, wohlgemut weiter wurstelnd wie wenn Weltkriegs wildes Wüten wenig wichtig wäre.*"

want to heed nor to give ear but rather followed their own counsel."<sup>32</sup> The scorn implicit in this piece speaks volumes for the German attitude immediately following the collapse of the Empire in 1918. The Republic, in the new mythology, was the punishment that the Germans must endure for the ineptness of the Kaiser.

In 1919 Götz commemorated the first anniversary of the Republic with a piece which pointed to the contrast between the Republic and Empire in a sardonic vein. On the obverse the Kaiser is shown toasting his officials on October 15, 1890 with the words, "You are the noblest of the nation." On the reverse the mourning survivors are pictured placing a capstone labelled "German Republic" on the tomb of the Empire which bears the inscription "Amerongen R.I.P."<sup>33</sup>

The greater part of German emotional response to the collapse following the First World War, however, was directed towards the problems of foreign affairs and the occupation of German soil. Götz's comments in this field are particularly illuminating and important as expressions of the new political doctrine. The arrival of President Wilson in Europe aboard the George Washington, which is mistakenly dated as March 16, 1919, was greeted with a medal showing Europa on a kneeling bull waving greetings to the President.<sup>34</sup> In the exergue was an inscription declaring Wilson to be the "Saviour of Mankind" while around the upper part of the piece was the word "Welcome." Nevertheless, the reverse showed some of the scepticism with which the Germans viewed the coming peace conference. A gigantic ear attached to the globe of the world was depicted with the phrase "The World is Listening."

This scepticism gave way to complete disillusionment and hatred by the time of Wilson's departure for the United States. On a medal

<sup>32</sup> Götz, 234. "*Gehorchet meinem Worte so will ich euer Gott sein und ihr sollt mein Volk sein / Aber sie wollten nicht hoeren noch ihre Ohren zuneigen sondern wandelten nach eigenem Rate.*" J. Ellis Barker, *Modern Germany: Its Rise, Growth, Downfall and Future* (New York, 1919), pp. 33-34, says that William II wrote the phrase *Suprema* [sic] *lex regis voluntas* in the Golden Book at Munich as a demonstration of his attitude towards parliamentary and popular opposition.

<sup>33</sup> Götz, 236. "*Ihr seid die Edelsten der Nation / die trauernden Hinterbliebenen.*"

<sup>34</sup> Götz, 226. Wilson actually returned to Paris on March 14, 1919. The word "*Weltlauschen*" which has been translated as "The World Is Listening" has the connotation of "eavesdropping" as well.

dated June 28, 1919 the laureate American President is shown sailing for home in a seat which bears the words "World Imperialism Is Our Aim" while in the exergue the inscription reads, "With a calm spirit he sailed for home" (PLATE XLII, 1). The reverse design is a gigantic mousetrap clearly indicative of what the Germans in their reinterpretation of history felt had been a monstrous hoax perpetrated upon them. The mousetrap itself is specifically called "Wilson's Mousetrap," and in a further inscription in the exergue American action is referred to as "systematic roguery." What is it that the Germans remembered a year later as the great betrayal or "systematic roguery?" On October 3, 1918 Prince Max of Baden had requested an armistice on the basis of the Fourteen Points. Wilson responded on October 8th setting forth the demand that the Germans evacuate Belgium and northern France and give guarantees that they would not renew hostilities. It was also pointed out that Prince Max had yet to prove that he spoke in the name of the German people. In a conciliatory note of October 12th Prince Max gave the necessary assurances and requested the formation of a joint commission to supervise the evacuation of the occupied territories. Wilson's response of October 14th, however, rejected this proposal for a joint commission and indicated clearly that the only acceptable armistice would be one which guaranteed the supremacy of the American and Allied armies. This was the great betrayal in German eyes. It fell like a bolt of lightning on Germany. Instead of an arrangement between equals, Germany was asked to accept the fact, for fact it was, of defeat. The pain of that recognition was not to be lost, and when Götz medal was cast in the next year under the mousetrap was placed the inscription "Telegram 14. 10. 18."<sup>35</sup> Thus was added to the myth the concept of a planned Wilsonian betrayal.

With England, the United States was now placed among the heartless and deceitful nations which had taken crude advantage of German suffering. When the blockade was finally lifted on July 12, 1919, Götz commemorated the fact with a new medal showing starving Germans on the ground behind the iron wall of the blockade (PLATE XLII, 2). Above this scene were the words, "England's Deed of Shame." On the reverse, America, in the shape of Uncle Sam, was

<sup>35</sup> Götz, 227.

represented as the Good Samaritan selling foodstuffs to the starving, wounded German Michel at outrageous prices.<sup>36</sup> The theme was persistent and repetitive—always the cruel exploitation of a patient, suffering Germany.

In the new myth of history Versailles was the “hour of reckoning” between Germany and her foes, the Carthaginian Peace *par excellence*, and Clemenceau was the villain of the scene. By contrast the German hero of the moment was Philip Scheidemann. At the “hour of reckoning” on May 7, 1919, Clemenceau was satirized in gruesome form presenting the treaty to Scheidemann with his actual words, “You asked for peace. We are ready to give it to you.” On the reverse, Scheidemann was depicted in heroic style casting aside the text of the Allied proposal from which the snakes of hatred issued with open jaws. For Scheidemann, as the inscription says, it was to be a peace of right and not of might.<sup>37</sup> By this act of resigning rather than becoming a party to the new treaty, Scheidemann became the proclaimer of German virtue before the world at the end of the first act in the drama to show that unreasoning power and not ethical concepts had dictated the contents of the treaty. For this brief interval or time, only a few weeks, Scheidemann enjoyed his heroic role as the man who had proclaimed the desire that his arm might wither before he agreed to the terms of the treaty. Later, when as a governmental leader he was actively engaged in a policy of fulfillment of the treaty, he bore the hatred of the German people and the popular denomination of “Scheidemann of the withered arm.”

The facts of world history as viewed by Götz, and we must believe that many Germans followed his lead, pointed to the signing of the treaty in 1919 as “Germany’s Day of Crucifixion” for her “guilt” in the war (PLATE XLII, 3). But on the reverse of a medal portraying this crucifixion of a nation, the “true villains” Wilson, Sonnino, Lloyd George, and Clemenceau, were depicted as casting dice in a game for the cloak while the *manus Dei* issued from the heavens and inscribed the word “Bolshevism.”<sup>38</sup> The old Germany was suffering on the cross while the terrible punishment of Bolshevism hovered

<sup>36</sup> Götz, 229.

<sup>37</sup> Götz, 225.

<sup>38</sup> Götz, 224.

over the world as the Divine vengeance for the victors.<sup>39</sup> Here was an added feature to the myth—the initial suggestion that the Allies never understood that Germany was the vital bulwark against Bolshevik expansion.

The Treaty of Versailles was in the German mind to be compared with the immediate cause or the outbreak of the war in its capacity to cause further difficulty. Götz certainly viewed it in that light in a piece which celebrated the signing of the peace and bore the inscription "A Day of Commemoration of Two World Crimes." A hand, labelled Sarajevo, can be seen rising with a burning torch from which the earth has been ignited while another arm, denominated as Versailles, comes down to seize fodder for the raging flames. In such proceedings the Germans refused to take an active part, and Götz cleverly pointed to this fact on a strange reverse. It should be remembered that the German government had refused to send anyone to "receive" the treaty from the Allies, and only when the word "negotiate" was used did they consent to send Count Ulrich von Brockdorff-Rantzau. Brockdorff-Rantzau repudiated the treaty when it was delivered to him, and, indeed, he delivered a scathing denunciation of it while maintaining his seat as the symbol of German equality before the world. At a later date the explanation was to be given that he was too weak from hunger to stand. He refused to be placed in the criminal's dock and took specific exception to the articles regarding the war guilt of the Germans. Opposition, however, to the Allied demands was hopeless in the light of Germany's weakness and the strength of her opponents. Germany was forced to sign, but only Hermann Müller, who later became a Chancellor of the Republic, and Dr. Bell, a Centre Deputy, would agree to affix their signature to the document. No German statesman of standing, not

<sup>39</sup> Götz and the German middle class as well as the aristocracy represented by men like von Bülow had a deep aversion to the new danger of Communism. Shrovetide 1919 was represented by a medal showing the German eagle with tears starting from its eyes and a padlock on its beak while a liberty pole on its back served to stimulate some few dancers to perform and orators harangued a crowd in the background. On the other face the evil visage of the "New Danger from the East" was shown in all its horror with snakes and bombs. The carnival with which the Lenten season was begun witnessed a helpless Germany in which the danger of Communism had a free hand. Cf. Götz, 223.

even Erzberger, whom von Bülow and the rest of the Germans castigated during the Weimar period as the real traitor, consented to perform this odious deed. Götz emphasized this fact with a reverse showing the pen and the treaty with a legend reading, "The Historic Golden Pen Not Used By the Germans."<sup>40</sup> Even so, in 1921, Erzberger was to be assassinated by disgruntled nationalists.

It seems obvious that Götz intimated that the treaty had been signed by individuals under pressure and that the state was not committed to observe its terms. The fact that the names of Hermann Müller and Dr. Bell can be distinguished on the document represented on the medal makes it certain that this piece was issued after the actual signing and not in the interval when the German government was wavering about its course of action. Even though the Weimar Assembly had voted to sign the document by a clear majority, Götz continued to maintain his position, and it seems apparent that a great many Germans shared his views. A policy of fulfillment was not popular from the beginning. Müller himself was stoned by the Paris mob as he left the scene of his disgrace that night because he had prevented the occupation of the Rhine which the French wished so avidly. On the following day a Berlin newspaper expressed the emotions of Germany in less symbolic form. "Lest we forget! The German people will strive to attain that place among the nations of the world to which we are entitled. Then, vengeance for 1919."<sup>41</sup>

Revenge was added to the myth in a medal portraying Bismarck's mausoleum in the Saxon Forest with the inscription: "Germany's Honor, Greatness and Good-Fortune Lie Buried in the Saxon Forest—I April 1899 (PLATE XLII, 4). On the reverse under the date 1919 can be seen the head of Bismarck and his two clenched fists rising through a mist below which is the terrible inscription: "What I created with the help of the German people over a long time—that has been destroyed by the delusion of a single individual. The German people have struck themselves from the list of great powers by subscribing to the Peace of Versailles. It (Germany) was formerly hated,

<sup>40</sup> Götz, 228. "*Gedenktage zweier Weltverbrechen / die historische goldene Feder von den Deutschen nicht benutzt.*"

<sup>41</sup> Quoted by Victor L. Albjerg and Marguerite Hall Albjerg, *Europe from 1919 to the Present* (New York, Toronto, London, 1951), p. 82.

it is now justifiably despised. It must, therefore, despise itself so much until this disgrace will be cleansed with the blood of our enemies.”<sup>42</sup>

Two aspects of the final settlement weighed most heavily on the German mind and provided the subject matter for other medals. The first of these was the reparations payments. German feeling was exacerbated when, at the end of January 1921, the Allies set the total reparations at 55½ billion dollars to be paid in 42 annual installments each of which was supposedly equal to 12 % of the value of Germany's exports. The Germans responded with an offer of 7½ billions which was rejected and resulted in the occupation of Düsseldorf by the Allies, but before that point had been reached inflamed German public opinion was voiced in a nationalistic medal which recalled the glories of the War of Liberation against Napoleon. At the same moment the medal castigated the hatred and vindictiveness of the Allies as well as the blindness and simplicity of the Germans who permitted this robbery. The nude figure of a German bound by his arms to a cross as the symbol of martyrdom with the legend “42 Years,” for the 42 annual installments, above the head set the tone of the medal. The inscription which surrounded the figure made its meaning even clearer.

Enslaved  
From hate and vindictiveness  
From blindness  
Denuded of human rights

The reverse contained the famous lines of the poet of the War of Liberation, Ernst Moritz Arndt (1769–1860), who in the early nineteenth century had proclaimed the superiority of German as opposed to Latin and Slavic languages and demanded the union of all German-speaking peoples. Familiarly called “Father Arndt” by the German people, Arndt was a chauvinist who detested everything French.

<sup>42</sup> Götz, 230. “*Deutschlands Ehre, Grösse und Glück begraben im Sachsenwalde—1 April 1899 / Was ich mit Hülfe des deutschen Volkes schuf in grosser Zeit—das hat der Wahn eines einzelnen zerstört. Das deutsche Volk hat sich durch Unterzeichnung des Friedens von Versailles selbst aus der Reihe der Grossmächte gestrichen. War es früher gehasst, so wird es jetzt mit Recht verachtet. Es muss sich sogar selbst verachten bis diese Schmach mit dem Blute unserer Feinde abgewaschen wird!*”



These lines had been enshrined in the songs of German youth, but now they were interpolated between the large word "No" and the source of the evil *Pariser Diktat*. Below the words *Pariser Diktat* was placed the date "28 Jan. 1921" which made the immediate cause of the protest evident. The words of Arndt in such a setting had the force of a new call on the Deity for liberation.

The God who made Earth's iron hoard  
Scorned to create a slave.

*Der Gott der Eisen wachsen liess  
Der wollte keine Knechte.*<sup>43</sup>

By 1923 the hatred and vituperativeness of Götz had risen to the point where savagery entered into the symbolism for the reparations payments. In that year a new medal showed a baby with an immense blood-sucker attacking it and the inscription "Blood-sucker on the Rhine" (PLATE XLIII, 1). To give even greater concreteness to the imagery, the Michel was shown in a press with a bursting abdomen from which coins were pouring while the heads of French soldiers were represented on the mechanism for turning the press to apply still greater pressure. The legend, "The Boches are completely squeezed dry," left nothing to the imagination.<sup>44</sup>

Hatred of the Allies because of the annexations of German territory was even more vivid. This was the second "evil" aspect of the settlement. It was the inspiration for more medals of a sadistic nature. From the German point of view the telegram of October 14, 1918 had been a monstrous betrayal, Versailles was the crucifixion of a nation, the reparations nothing more than robbery, and the annexations were the boldest denial of the rights of self-determination which the

<sup>43</sup> Götz, 279. "*Frohnen  
Aus Hass und Rachgier  
Aus Verblendung  
Entbloesst sein aller Menschen Rechte.*"

The translation of the poetry of Ernst Moritz Arndt is taken from Alfred Baskerville, *The Poetry of Germany* (Baden-Baden and Hamburg, 1876), p. 155. It attempts to preserve the poetic quality rather than simply the actual literal meaning of the words. On an earlier medal commemorating the conference at Spa, July 5-16, 1920, about reparations, the obverse shows the German Michel carrying the heavy burden which had been placed upon him. Götz, 270.

<sup>44</sup> Götz, 294. "*Boches' fest ausgepresst.*"

peaceful German Michel had accepted. On one medal inscribed "After the Peace," Götz depicted the bottle of heady liquor labelled "Peace Food" resting by a document inscribed "The People's Right of Self-Determination." Flying above the scene was a monstrous three-headed bird grasping a sword in its talons. One head was that of Lloyd George, another that of the French cock, while the third was President Wilson. On the reverse the hairy hand of a savage beast with long claws was represented snatching at the tombstones of Eupen and Malmédy. This scene was encircled with the inscription "Belgium's Robber March."<sup>45</sup> The territories of Eupen and Malmédy with the little enclave of Moresnet were transferred to the Belgians on September 20, 1920 without a plebiscite. The treaty, however, provided a means for the expression of popular opinion. Registers were placed at various locations, and the residents who objected to the annexations could sign their names in these. This was certainly a mockery of the very concept of self-determination. In view of this and the fact that these lands had never been Belgian, the German reaction was extremely sharp.

Even deeper wounds were inflicted by the Polish occupation of the eastern regions of the former German Empire. The seizure of Upper Silesia after a plebiscite in which a clear majority of the Silesians had chosen to remain German appeared to be a simple act of vengeance. Götz expressed German reaction to this with a medal showing the German eagle standing on a jar labelled "German Majority" while *Gallia* was depicted as whipping the eagle and savage little Poland resorted to pulling at its tail feathers. The reverse of this piece was even more ominous in that the border between Germany and Poland was shown in the form of an angry face with the inscription "The Border Itself Presents A Front Against Poland."<sup>46</sup>

Pan-Germanism was also added to the nationalistic reinterpretation of history. By the terms of the treaty the union between Germany and Austria (*Anschluss*) was specifically forbidden, but the medals clearly demonstrate that the character of German nationalism was such that even the losses suffered by Austria under the Treaty of St. Germain were viewed as attacks on the German people. To the

<sup>45</sup> Götz, 283. "*Belgiens Räuberzug*."

<sup>46</sup> Götz, 284. "*Die Grenze selbst macht Front gegen Polen*."

Germans the Tyrol was an integral part of their country because it was inhabited by German-speaking people even though it had formerly been Austrian. After a plebiscite which resulted in favor of Germany, the Tyrol was, nevertheless, given to Italy. Götz's medal portrays an arm raised with an Alpine cap in hand while two Italian soldiers are seen tugging at the sleeve and arm. The inscription left no doubt as to the meaning: "Decision to join the Reich." On the reverse the German eagle was depicted lying helplessly on its back and plucking with its beak at the band which bound its feet. It was this feeling of helplessness which apparently affected the Germans most deeply because the inscription on the piece reads, "All of Germany lay in disgrace and pain—and with her her land, the Tyrol."<sup>47</sup>

It was widely believed that the author of Germany's woes was Clemenceau. He was the villain of the story in the eyes of the Germans. A medal of 1921 depicted the former French Premier in the shape of a hunchbacked elf tearing pages from the book of German folk tunes while on the ground there lay several songs about the Rhine and one specifically about Strassburg.<sup>48</sup> Strassburg was, of course, the *wunderschöne Stadt*, and von Bülow in his *Memoirs* makes specific mention of its loss, along with that of Metz, as particularly painful.

Under these circumstances pacifism was a luxury which the German mind rejected. The simple character of the German, according to the new myth, was a source of advantage to his enemies which they were not slow to utilize. To represent this no better form of symbolism existed than the Michel which embodied all of those traits and which had appeared on the medals in the dark days of the defeat. The new mythology presented the Germans as earnestly desiring peace, but because of their simplicity they were being forced to pay the heaviest price for it. A medal with the inscription "Peace at any price" depicts the Michel being tormented from one side by a French

<sup>47</sup> Götz, 285. "*Abstimmung an's Reich! / Ganz Deutschland lag in Schmach und Schmerz—mit ihm sein Land Tirol.*" The medal bears the date April 20, 1921, but the plebiscite actually took place on April 24, 1921. Perhaps this little error of fact may be seen as the result of the deep emotion felt by Götz. The reverse inscription is taken from the poem *Andreas Hofer* by Julius Mosen (1803–1867). Hofer was the Tyrolian hero against the French in 1810. This poem became a German folk song.

<sup>48</sup> Götz, 286.

soldier standing on the Rhine while a Polish trooper adds his abuse from Upper Silesia (PLATE XLIII, 2). Germany was the lamb on the reverse crying "Never again war" while the savage wolf reared above him to pounce upon him and to devour him.<sup>49</sup> There could be no doubt of the significance of the piece which bore the legend "Pacifism."

Götz was clearly of that school of nationalist Germans who viewed success as the measure of truth. This, too, was accepted in the myth as ideal. The international affairs of Germany pained him as shown by the many medals in which he commented on the inflation and the differences between rural and urban life during the Republic as well as the various shortages. His comments on politics, however, tended to be innocuous or simply anti-communist unless they were directed at failure. The Kapp Putsch of 1920 was one such event which called for a comment poking fun at the "Five Day Chancellor" as well as at the government which had fled from the capital.<sup>50</sup> The Hitler Putsch of November 8, 1923 was another such event, but in this latter instance the medallist was distressed by the fact that both antagonists, von Kahr and Hitler, were nationalists. The obverse shows Hitler mounting the rostrum, pistol in hand, to arrest von Kahr while a Munich citizen sits below with beer steins in hand, wide-eyed with amazement. The inscription in Bavarian dialect reads, "Nationalist Against Nationalist" (*National [ge]gen National*). On the reverse the Feldherrnhalle was represented as a stage setting across the top of which is the inscription *Münchner Theater*. This inscription seems to have been intended to have a double entendre. Not only was it the scene of the events, but the word "Theater" may also be used to designate a foolishly dramatic occurrence. This is implied in its use on this piece, for from the left the Nazis are represented as half-grown boys rushing out on to the stage with the swastika and a gallows while just behind the curtain in the opposite wing von Kahr is shown with a cannon. Between the two parties a Communist is caricatured as dancing with glee while pointing at both participants. In the foreground there is the inscription "Last Performance—On to Berlin."<sup>51</sup>

<sup>49</sup> Götz, 291. "*Nie wieder Krieg.*"

<sup>50</sup> Götz, 260.

<sup>51</sup> It is interesting to note that on this very early Hitler medal the name of the principal actor is misspelled. Götz, however, continued to issue medals throughout the Nazi period, though none of those of this later period are

Intense preoccupation with foreign affairs, however, was the rule, as shown in a satirical piece leveled at Poincaré and Chancellor Wirth who had boldly proclaimed with deep insight that the real enemy of Germany was the right-wing political group (PLATE XLIII, 3). The obverse pictures Wirth as Bismarck's successor proclaiming this political doctrine while the reverse shows an armadillo-like creature wearing a French helmet labelled Poincaré and the legend "Not right—not left, on the Rhine Herr Chancellor."<sup>53</sup>

France was the *bête noire* of history in the new interpretation. Clemenceau, the real villain, received his just deserts as "The Father of the Victory" when he was defeated for the Presidency. Götz celebrated this with an exceptionally vulgar piece which ignored the reason for the defeat, the leniency of the Treaty of Versailles.<sup>53</sup> This medal, however, was only the forerunner of an entire series of even more tasteless and pornographic pieces on the subject of French occupation troops. In German eyes Foch and the French army were lascivious villains who preyed upon German women and introduced Negro troops to exercise their lust on the defenseless females of the Reich. The "Black Disgrace" formed a recurrent theme which lent itself to pornography in a truly fantastic fashion reminiscent of the Ku Klux Klan. Götz utilized it fully as a means of incitement.<sup>54</sup> Even white French troops shared in the opprobrium while France itself was referred to as the "Bordello Nation."<sup>55</sup> Not only were the French purportedly guilty of assaulting women and forcing them into brothels, but in the spirit of revenge, they even stooped to the desecration of the graves of the German heroes.<sup>56</sup> (PLATE XLIII, 4.)

marked by the use of satire or lampooning. Apparently the artist, who was a nationalist, if one may judge from his work, accepted the New Order as inevitable and desirable. He sought to glorify it in his work. One piece shows Hitler shaking hands with the elderly von Hindenburg who has just appointed him Chancellor. Still another shows the young German soldier behind a shield marked with a swastika and bearing the words "National Front" (*National-front*) slaying a dragon. The encircling inscription reads: "*Mit Hindenburg für Deutschland.*" Lest the impression be given that it was because of Hindenburg that this piece was issued there is still another showing a storm-trooper waving flags with the encircling legend, "*Deutschland Erwache.*"

<sup>52</sup> Götz, 293. This piece is dated June 25, 1922.

<sup>53</sup> Götz, 259.

<sup>54</sup> Götz, 262, 265, 274.

<sup>55</sup> Götz, 295. <sup>56</sup> Götz, 273.

Under these circumstances the occupation of the Ruhr in 1923 by the French, because the Germans had defaulted in their reparations payments, resulted in a spate of newer anti-French medals, but this time the attitude was not entirely negative. New German heroes appeared in the persons of those who opposed the French and Belgian occupying authorities. Massive resistance, which was not always as completely passive as the textbooks would have us believe, provided the new heroes who were necessary for a new history. The fourteen people slain in Essen on Easter in 1923 were visualized as dead heroes.<sup>57</sup> Albert Leo Schlageter, who had been executed before a French firing squad for sabotage, returned in the new mythology not as a former German officer who had indulged in sabotage against the French and was punished, but as a hero who had been murdered by the oppressors. To him Götz dedicated a medal with the burning words, "Glow Holy Flame! Glow! Glow! Never Die Out For The Fatherland!"<sup>58</sup>

With the creation of new heroes in a new mythology there arose a new hope from the well of mediaeval imperial legends. The *Kyffhäuser* legend, which was taught to every German schoolboy, provided the basic foundation. Frederick Barbarossa (1123–1190), Holy Roman Emperor and first of the Hohenstaufen dynasty, according to this legend, had not really died, he was merely asleep in the Thuringian hills, and at the proper moment he would awaken to seize his sword and shield and lead the united peoples of Germany to victory against her enemies. This legend has origins in the tales of the earliest Germans, but in Westphalia it was connected with still another tale of Byzantine origin. According to the Byzantine version, the last emperor of the Byzantine Empire would at some future time establish his kingdom in Jerusalem; then hang his shield on a withered tree, in some cases a birch (*Birke*); deposit his sword on the Mount of Olives; and surrender the kingdom to God. When the Antichrist appears the emperor will resume his armor, fight the holy war to subdue the demon, and in the final victory he will establish the true kingdom of God. In Westphalia the connection with the shield hung on a birch

<sup>57</sup> Götz, 297.

<sup>58</sup> Götz, 300. "*Glüh' heil'ge Flamme glüh! Glüh' u. erlösche nie für's Vaterland.*" Schlageter was later elevated to the hierarchy of Nazi saints.

tree caused this final battle to be called "*die Schlacht am Birkenbaum*." Götz pictured such a tree with broken fetters attached and a head and two arms rising from the ground while above this figure was the inscription, "The Day Will Come." On the reverse a shepherd is represented with his flock near a gravestone with the date 1923 viewing the distant sky in which appear the words: "Between the Lippe and the Ruhr—The Last Battle at Birkenbaum."<sup>59</sup>

The sequel was a foregone conclusion. There were medals with storm troopers and the words "Germany Awake," pieces commemorating the victories of the new Germany at Munich, and, finally, a serious glorification of the German victory over the French and the armistice of June 21, 1940. As surely as the new mythology had been created, it reached its fulfillment in the horrors of the Second World War and its pinnacle in the representation of the meeting of French and German officers in an old railroad car. This medal bears the tragic words which are the culmination of the tragedy, "In the historic 'car' in the forest of Compiègne ended the tragedy of 'German Shame' which had its origin at that spot on November 11, 1918."<sup>60</sup>

Mirrored in these medals is the creation of a new legend and an explanation of German mass psychology in the years between the wars. The defeat was declared to be a great betrayal even before the armistice had been signed. Wilson's telegram of October 14, 1918, which stipulated recognition of German defeat as one of the essentials of an armistice, was the starting point. The treaty itself was not to be accepted in good faith. It was imposed on Germany because of the admirable simplicity and credulity of the German people. The Michel figure was ideally suited iconographically for this purpose. The savage French and Poles were the true enemies of Germany and not the rightists or leftists within the Republic. The Republic itself was

<sup>59</sup> Götz, 298. "*Es kommt der Tag / Zwischen Lipp' u. Ruhr—Die letzte Schlacht am Birkenbaum*." Some German historians, notably G. Vogt, insist that the real hero of the legend is Frederick II, not Frederick I. There were many other legends of a slumbering future deliverer—Siegfried in the hill of Geroldseck; the Saxon Widukind in a hill in Westphalia; and Charlemagne in a hill near Paderborn.

<sup>60</sup> Götz, 260. "*Im historischen 'Wagen' im Walde von Compiègne endete die Tragödie 'deutscher Schmach' welche am 11. Nov. 1918 von dort ihren Ausgang nahm*."

merely a plaything without reality which indulged, like laundry women, in washing the evil filth of Germany's opponents. The war guilt lay not with the incompetent Kaiser but with the evil plotters among the Allies.<sup>61</sup> Seizures of German territory were unjust. Reparations were unjust and placed impossible burdens on the simple German Michel. Opposition to the Allied powers was heroic. Nationalists must not fight one another. The day of final victory, the golden age of the future, would surely come. This new mythology, which distorted the historic facts, was full blown within five years of the surrender, long before the Nazis achieved prominence. It was carefully cultivated within Germany, and it was recited by the well-meaning abroad. For the Nazi ideology it was manna from heaven.

German satirical medallic propaganda thus contributed heavily to the perpetuation of old and the creation of new nationalistic myths. Similar myths have emerged in all modern countries, but in Germany they took on a special character of philosophical mysticism and barren abstraction. This was due in part to a resurgence of romanticism in its most confused form, what Frederic Lilge has called "a demoralization of the mind by intellectuals afraid of the intellect." In its older form, the tradition of irrationalism, mysticism, and intuition, inaugurated by Julius Langbehn (1851-1907), was further stimulated by a Frenchman, Arthur de Gobineau (1816-1882) and a Germanized Englishman, Houston Stewart Chamberlain (1855-1925); and later by Oswald Spengler (1880-1936) and Alfred Rosenberg (1893-1946). The peculiar content of German extremist nationalism, so obvious in the satirical medals, stressed the traditions of State-worship, unconditional loyalty to the ruler (no matter what his character and the spirit inspiring him), and the replacement of responsibility by blind obedience. To these were added the new facets commemorated in bronze by Götz. All this culminated in the ideology

<sup>61</sup> The campaign against the "war guilt lie" was carefully organized under the direction of Alfred von Wegerer (1880-1945). A General Staff Officer in World War I, von Wegerer was to write the history of a triumphant Germany or to justify Germany's position in the event of defeat. From 1921-1936 he headed the Central Office for Research on Causes of the War (Berlin), which issued the publication *Die Kriegsschuldfrage* (since 1929 the *Berliner Monatshefte*). German satirical medals generally reflected accurately von Wegerer's stand on war guilt.



of Hitlerism, with its fanatical nationalism, its infantile mysticism, and its uncompromising hostility to liberalism, democracy, and humanitarianism.

The evidence is as solid as the bronze of these very popular medals. The only features lacking are "the stab in the back"<sup>62</sup> of the glorious German army, antisemitism, and a Führer Prinzip. These, however, were native elements in Germany and did not require a new creation. Beyond them was the newly created essential myth.

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<sup>62</sup> Götz did not use the "stab in the back" (*Dolchstoß*) theory in his medals although its content was closely associated with the myths he helped to perpetuate. According to this legend, German arms had never been conquered on the battlefield, but German collapse had been due to treachery on the home front by Social Democrats and Jews in Berlin. The courageous German army, which had not expected attack from that quarter, had been "stabbed in the back." The theory was attributed to General Maurice, head of the British Armistice Commission, but he denied this. (Cf. Frederick Maurice, *The Armistice of 1918* [London, 1943].) After the war a Reichstag Inquiry Commission examined the legend with painstaking care, and found no basis for it whatsoever. "Whatever its origins, it fitted neatly into the introspective, romanticist, soul-searching character of a great deal of the conservative German tradition, which sought explanation for German weakness in the *Zerrissenheit* of the German national body." (Koppel S. Pinson, *Modern Germany, Its History and Civilization* [New York, 1954], p. 344.) See also F. C. Endres, *Die Tragödie Deutschlands* (Munich, 1922), pp. 436-437, and Harry R. Rudin, *Armistice 1918* (New Haven, 1944).

## JAMES FRANKLIN ON COUNTERFEITING

The General Assembly of Rhode Island in session in February, 1728, voted that £40,000 in bills of credit be impressed and emitted.<sup>1</sup> James Franklin, elder brother of Benjamin, on the lookout for business, decided to secure the job of printing the money. James had been born in Boston, learned the printer's trade in England, and returned home in 1717. In December, 1719, he was employed by William Brooker to print the *Boston Gazette* but, after forty issues were brought out, the *Gazette* was sold and the new owner, Musgrove, turned over the printing to Samuel Kneeland.

Franklin, on August 7, 1721, brought out a paper of his own, *The New England Courant*, literary in tone and disrespectful of both civil and ecclesiastical dignitaries. Criticism of officials landed James in jail for a month in 1722; rude remarks about church members led to a court order in the next year forbidding James to publish his journal, so he was constrained to carry it on under the name of Benjamin.

Sometime in 1726 James Franklin removed to the more tolerant atmosphere of Rhode Island, where in Newport he set up the first press in that colony and brought out a pamphlet in 1727. Business cannot have been too plentiful, so on May 2, 1728, James addressed to the Assembly a memorial with an eye to securing the job of printing the new bills.

A serious drawback to early bills was the ease with which they could be counterfeited. A fresh and glaring example was afforded by the ten shilling bills of Massachusetts, which had been widely imitated and successfully passed. The General Assembly of Massachusetts on November 22, 1727, passed a resolution that all notes of that denomination were to be called in and, if found genuine, exchanged, while they were no longer to be legal tender after August 1, 1828. Franklin, using the ten shilling notes as an example, pointed out to the Rhode Island Assembly just why bills struck from copper plate

<sup>1</sup> *Records of the Colony of Rhode Island and Providence Plantations, in New England* IV (Providence: Knowles, Anthony and Co., 1859), p. 401. Henceforth cited as *R.I. Colony Records*.

could be so readily counterfeited, then proposed an alternative method of making paper currency and finally suggested that he would like the job, not failing to add that this way was cheaper as well as better. His memorial, preserved in the Archives of the Office of the Secretary of State in Providence, Petitions, Volume I, page 25, reads as follows:

To the Hon.<sup>ble</sup> Joseph Jencks Esq. Governour, The Hon.<sup>ble</sup> the Deputy Governour, and the Hon.<sup>ble</sup> Council and Deputies of his Majesties Colony of Rhode-Island and Providence Plantations, in New-England, in General Court Assembled.

The Humble Petition of James Franklin of New-Port, Printer, Sheweth,

That the many Inconveniencys which arise to his Majesties good Subjects in New-England, from their Bills of Publick Credit being so often Counterfeited, have put many upon Projecting various Methods to prevent them, but hitherto to no Purpose.

Your Petitioner therefore humbly begs leave to acquaint Your Honours with the Reasons why our Bills of Credit, as they are now printed upon Copper Plates cannot be Secured from being Counterfeited, and likewise propose a Method of printing them whereby all possible Attempts of that Nature may be forever prevented.

The first reason is That a Bill Printed upon a Copper Plate is so much like the Strokes of a Pen, and the Ink lying but upon the Surface of the Paper not having so deep an Impression as by the comon Way of Printing Bills of small Denominations have by our comon Writing Ink been made larger, and even whole Bills Wrote out so as to Pass many Hands without a Discovery.

Another Reason is, That in a new Counterfeit a false Stroke being made, may be easily mended by Hammering the Plate smooth in the false Place only, and going over it again with y.<sup>e</sup> Engraver.

A third is, that more Ink being laid upon a Copper Plate for one Bill than another, makes not only an Inequality in the Colour, of the Bills printed from the same Plate some being very Pale and others very Dark, but in the Dark Ones the Letters Appear fuller, than in the Pale, and the Extream Parts or Flourishes of every Letter come off on the Paper, to the full extent of the Strokes of the Engraver on the Plate, when in the Pale Bills, the Extrem Parts of many Letters do not Appear at all, which makes a Manifest Difference in their Shape; insomuch That Persons unacquainted with Printing, and not knowing the reason of this Difference, very often Mistake the true Bills for false, and the false for true; as it now happens with the Ten Shilling Bills of the Province of the Massachusetts Bay; there being a Counterfeit Plate of that Denomination. The Letter (e) in the Word Province being most taken Notice of, the true Bills are taken for false, because the Flourish at the Bottom of the (e) does not Appear at all in the Pale Bills, and in the Dark it comes off full and plain; as your Honours may Perceive by the Comparison of those true Bills. By this means, there being a Manifest Difference in the true Bills, tho' taken from the same Plate, a small Difference in the false from the true, is not much taken Notice of.

On the Contrary, the Bills Printed after the same manner with the Specimens herewith presented, have so different an Appearance from the Strokes, of a Pen, and the Impression sunk so deep into the Paper, that either to scratch out one Word to put in another, or to write a whole Bill without a Discovery, will be altogether impossible.

Neither can this Method of Printing the Bills be Counterfeited by a Copper Plate, there being so much difference between Copper Plate Printing and common Printing that even if it were Possible, as it is not, to give every Letter and Figure the exact Shape, yet the whole Appearance of the Bill would be so vastly different, that a Careless Observer might Perceive it at a first Sight.

And as for the reason above given, a false Stroke on a Copper Plate, may be easily mended, so on the Contrary, in the Engraving on the Mettal proper for common Printing, the Ground, or that part of the Cut, which leaves the Paper White, being Cut away, there is not raised Substance left in the Mettal but that which makes the Strokes of the Letter or Figure; which makes it impossible to mend the least Mistake, where it is Necessary, that any part of a Letter, &c should be drawn out longer, or made fuller. And besides, in this way of Engraving the Mistakes would be so Numerous, that by Beginning the whole again on a new Piece of Mettal, still new Mistakes would be made; insomuch That Your Petitioner Supposes, Speaking Moderately, it would take one Man not less than an Age to produce a Passable Counterfeit Bill; but to Produce one exactly Agreeing in all its parts with a true one Engraven and Printed in the manner Proposed, cannot Possibly be done;

Your Honours will Perceive, in the Specimens herew<sup>th</sup> presented, a line of Flowers at the Top and Bottom of the Bill: Your Petitioner Proposes, that Flowers of an irregular Ground be cast, to be Placed after the same manner, and likewise some Particular sorts of Letters; and that the Ground Punches, those for such Flowers and Letters, the Matrices, and such Flowers and Letters themselves, be delivered into the Hands of the Government; And your Petitioner (if your Honours shall think fit to Employ him in this Piece of Service to the Country) be under Oath, not to cast any more of such Flowers & Letters than what are for the Governments Use, nor Suffer any to be cast or Used in any other Work; By this means the Bills will be for ever Secured from being Counterfeited; For the Nature of Letter-Founding is such, That a Man having cut and cast such Flowers and Letters, cannot himself by any means do it again, without a Manifest Difference, which will be Obvious to every ones Eye at the first View.

The Cutting the Indents and Escutcheons, casting the Flowers and Letters, as well as Printing the Publick Bills of Credit in the Method above Proposed, may be Performed by Your Petitioner, without the Assistance of any other Person, and much Cheaper than they can be Printed only on the Copper Plates already Engraved. Your Petitioner therefore humbly Prays he may have the Honour of Serving this Hon.<sup>ble</sup> Court, and his Majesties good Subjects of this Colony in this Affair.

And your Petitioner as in Duty bound  
shall ever Pray &c.

Newport, May 2.  
1728

JAMES FRANKLIN

The Assembly may have been favorably impressed but the new-comer to the colony was passed over in favor of a native silversmith. Samuel Vernon, who was born in Narragansett in 1683 and whose shop was in Newport. In 1715 he had engraved the plates for the first indented bills of credit of the first bank established by the colony. Vernon was both able and politically influential, serving as an assistant in the General Court from 1729 until his death in 1737 and also as a judge of the Superior Court of Judicature. The legislators, then, ignored Franklin's petition, and in May, 1728, voted that the emission of £40,000 be "impressed by Mr. Vernon."<sup>2</sup>

In 1732 Franklin again petitioned the Assembly, setting forth his great expenses in providing materials for printing in the colony and his readiness to serve the government in the past and the future. For his encouragement he was now voted £20 on condition that he print twenty copies of whatever acts should be passed during the June session.<sup>3</sup>

It is unfortunate that the legislators did not allow James Franklin to try his hand at making their bills. His analysis of the handicap of having bills struck from copperplate is probably unique in the Colonial Period. The only other early suggestion—likewise ignored—for preventing wholesale imitation of the paper money appeared in the *Boston Weekly News-Letter* of September 27, 1739 and read as follows:

Notwithstanding the Laws made to prevent counterfeiting the Bills of Credit currently passing among us, it seems the Penalty of Death itself will not deter Persons from that wicked Practice, it plainly appearing from Time to Time that there are large Quantities of Counterfeit Bills put off and shifted about, to the great Damage of the Commonwealth in general and of the Honest Dealer in particular: We are therefore desired to inform the Publick of the Method which the Bank of *England* took to prevent the counterfeiting of their Bills or Notes, which they never could do till they came to it: They procured a Pair of Paper-Moulds exactly the Dimension of their Bills, with several Devices in the said Moulds: They also engag'd a Paper-Maker who procured a peculiar sort of Stuff for making the Paper, which is of that Nature and Quality that no other Paper is made of the same; and it is of such Strength as that it wears ten Times longer than any other sort of Paper whatever; and the Bank of *England* have never had one Bill counterfeited since they have followed the above Method.

KENNETH SCOTT

<sup>2</sup> *Acts and Laws of Rhode Island* (Newport: James Franklin, 1730) p. 156.

<sup>3</sup> *R. I. Colony Records* IV, pp. 472-473.

## PLATES

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12



10a



11a



12a



13



14

MYTILENE



1



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4



5



ILIU



# III



8



9



11



12



ILIUM



14



15



16



17

ILIU

v



18



19



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21



22



23

ILIAM



BRONZE OF ALEXANDRIA TROAS

VII



12



13



14



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16



17



18



19



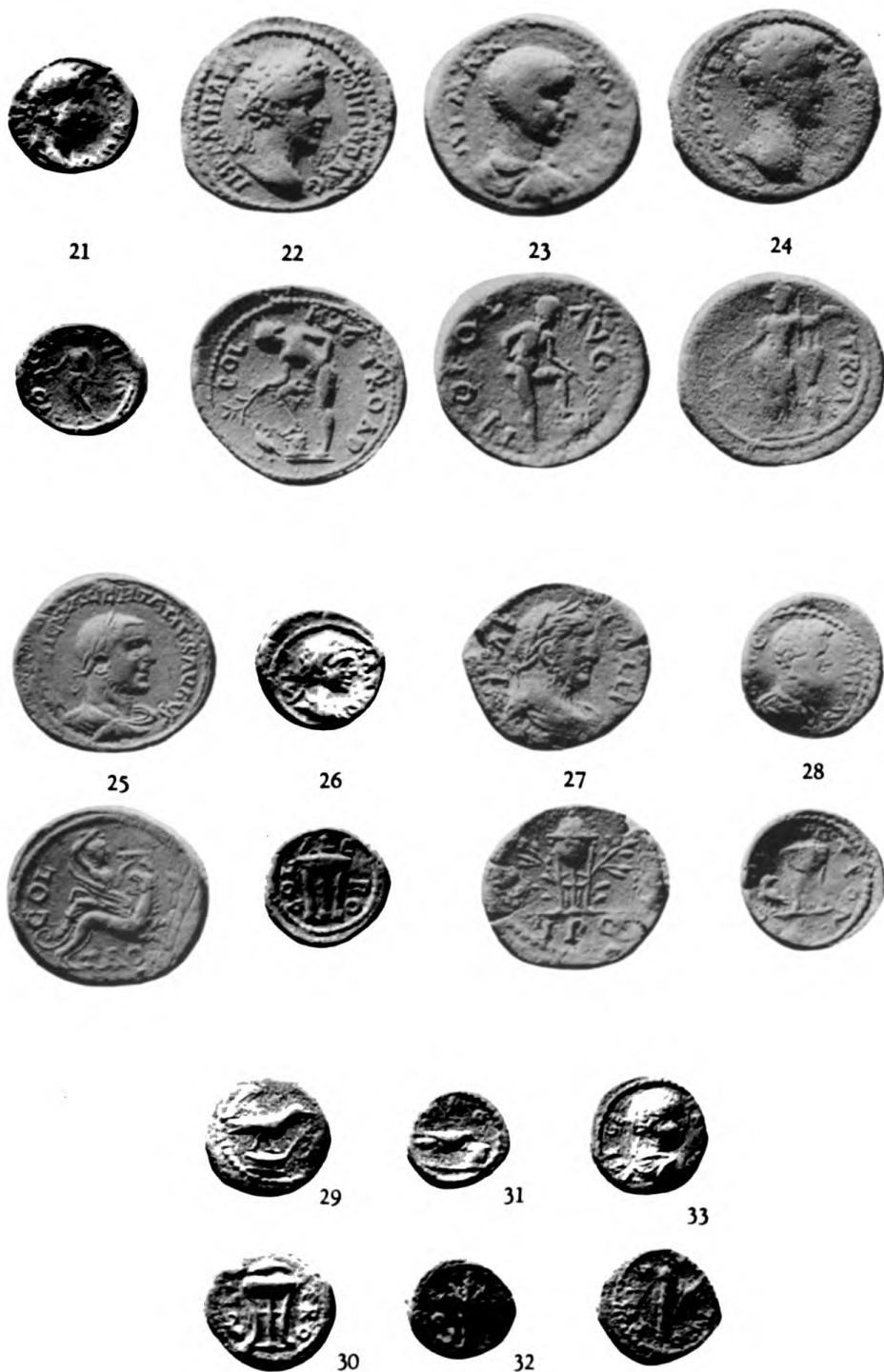
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BRONZE OF ALEXANDRIA TROAS



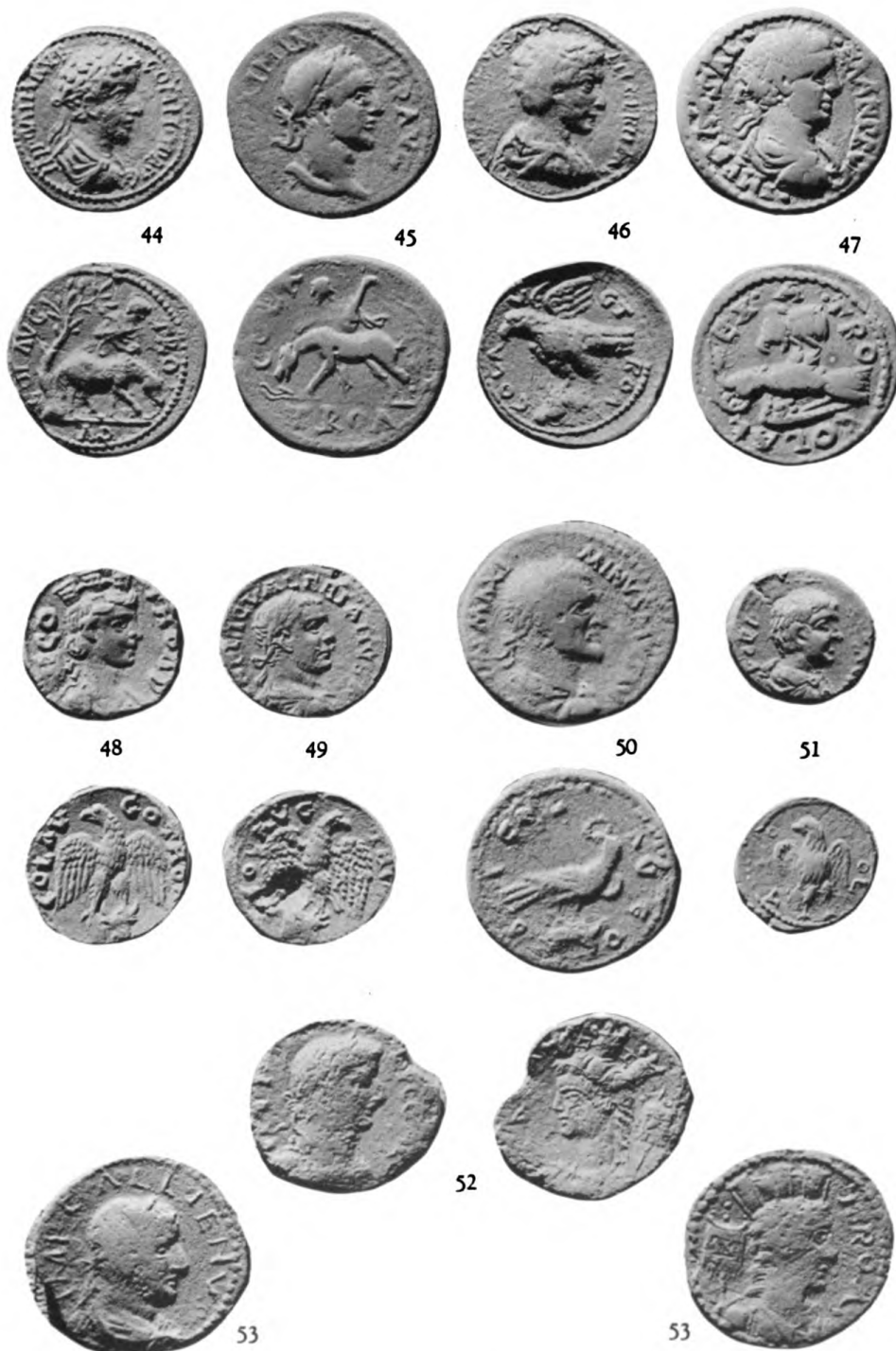
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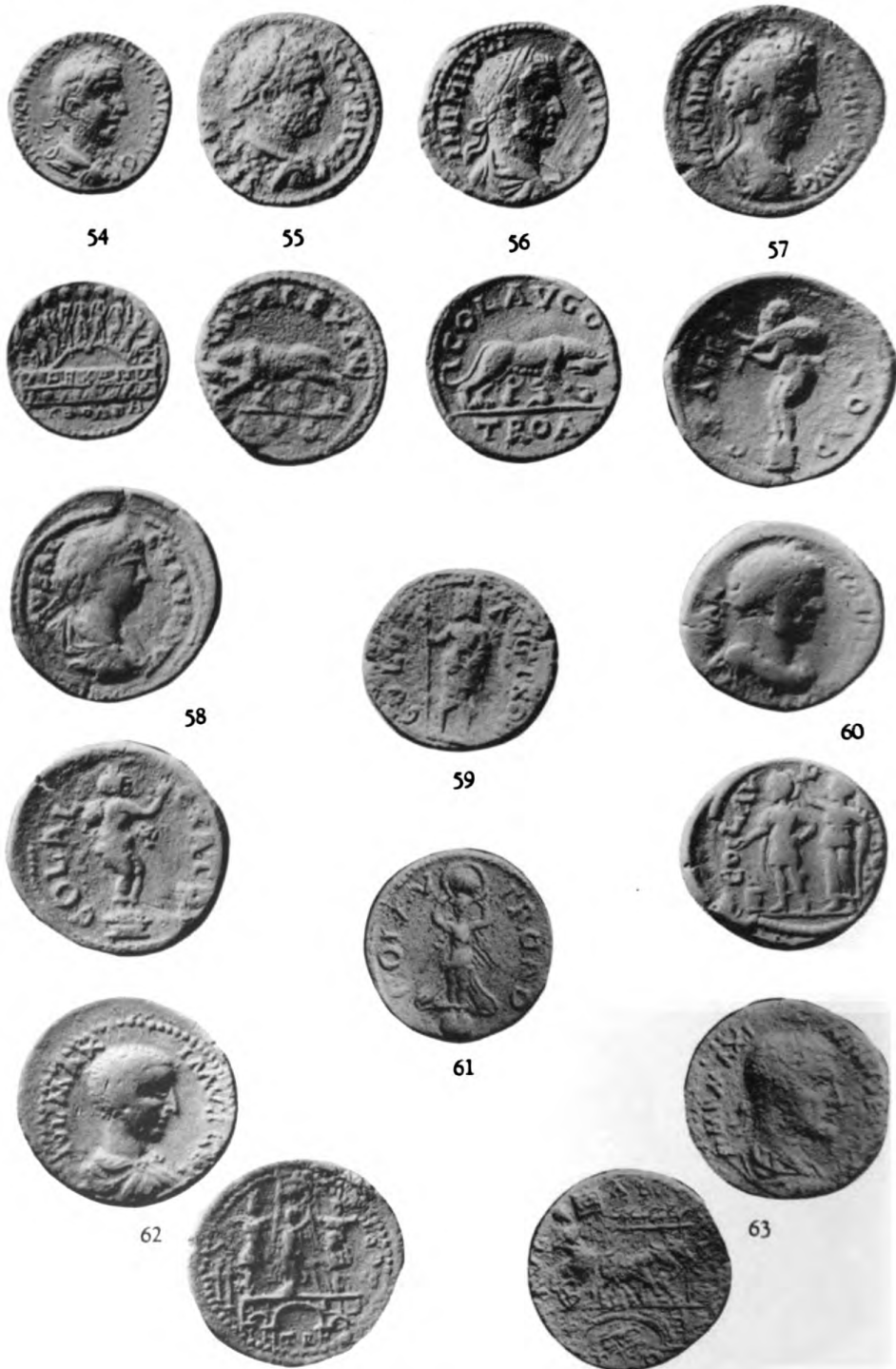
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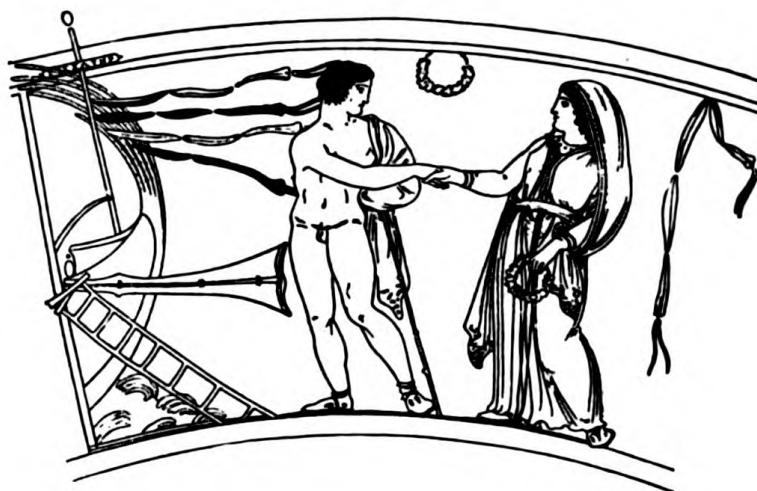


BRONZE OF ALEXANDRIA TROAS





BRONZE OF ALEXANDRIA TROAS



TETROBOL OF HISTIAEA

XIII



CORDOVA HOARD



CORDOVA HOARD

XV



CORDOVA HOARD



CORDOVA HOARD  
(Not from hoard: 44A, 48A, 48B)

XVII



CORDOVA HOARD  
(Not from hoard: 69A)

x.





**CORDOVA HOARD**  
 (A-D: Roman Denarii from hoard; E, F: from Palenzuela hoard)



XIX



CARTHAGO NOVA OR ILICI?: 1-4;  
 COUNTERMARKED AUGUSTAN CISTOPHORUS: 5-6;  
 MEDALLION OF LUCIUS VERUS: 7

XX



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BERYTUS

XXI



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15



14



BERYTUS



16



17



18



19



ALEXANDRIA: 16-17; PERINTHUS 18-19

XXIII



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23



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25



26



HADRIANOPOUS: 20-22; PAUTALIA: 23;  
AUGUSTA TRAJANA: 24; ODESSUS: 25-26.



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7

# IMPERIAL COSTUME ON BYZANTINE COINS



5



IMPERIAL COSTUME ON BYZANTINE COINS





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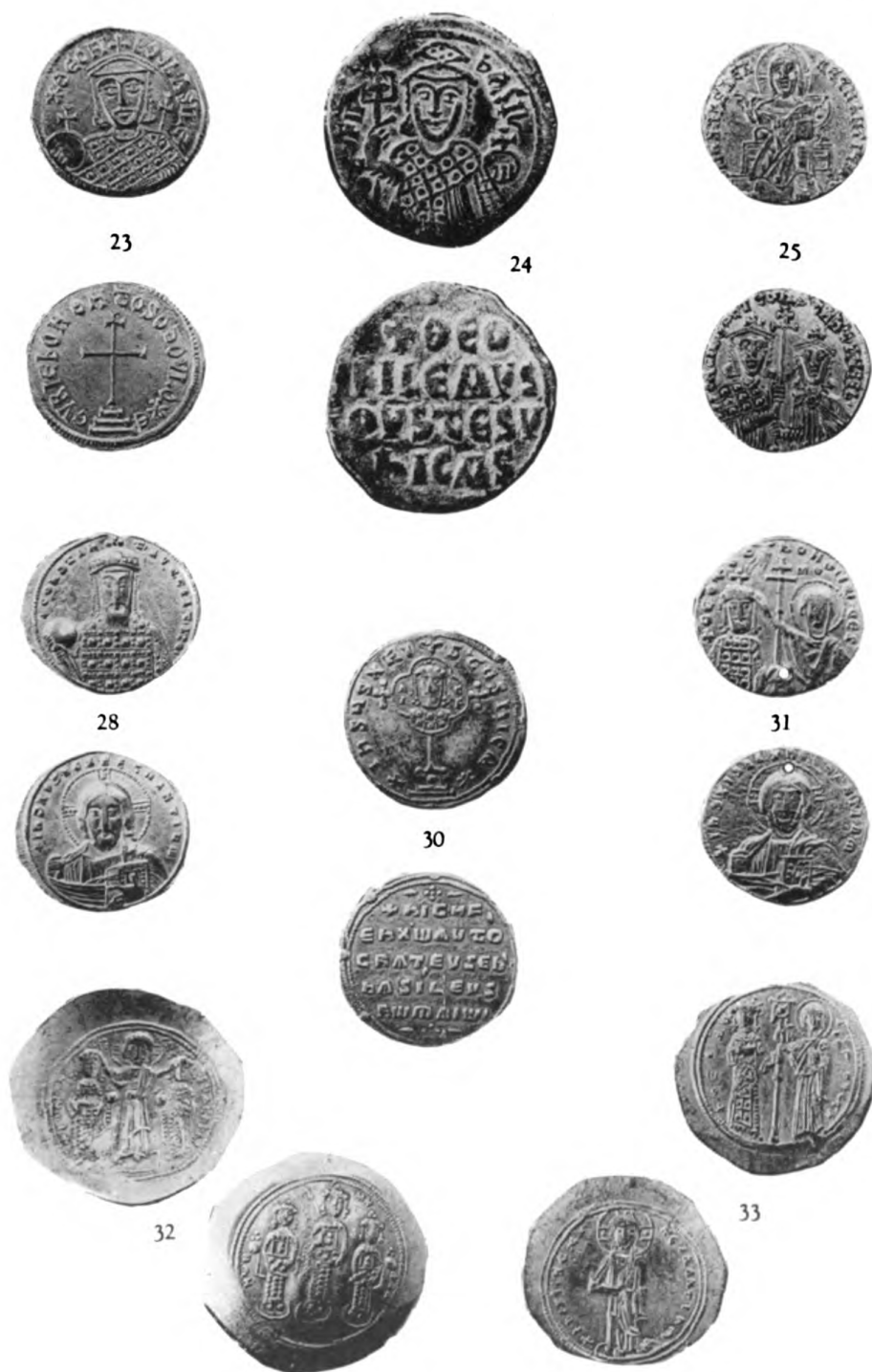
# IMPERIAL COSTUME ON BYZANTINE COINS



XXVII



IMPERIAL COSTUME ON BYZANTINE COINS



IMPERIAL COSTUME ON BYZANTINE COINS

XXIX



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IMPERIAL COSTUME ON BYZANTINE COINS

XXX



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## CAROLINGIAN IMPERIAL SYMBOLISM



## CAROLINGIAN IMPERIAL SYMBOLISM



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30



## CAROLINGIAN COINS



32<sup>b</sup><sub>c</sub>



33



34



38



39



40



50



53



56



70



71



74



# CAROLINGIAN COINS





CAROLINGIAN COINS



XXXV



111



114



116



118



117



120



121



122



123



124



# CAROLINGIAN COINS



129



132



143



COLOGNE

XXXVII



144



147



148

COLOGNE



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## GOLD COINS OF NUREMBERG

XXXIX



16



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329



365



370

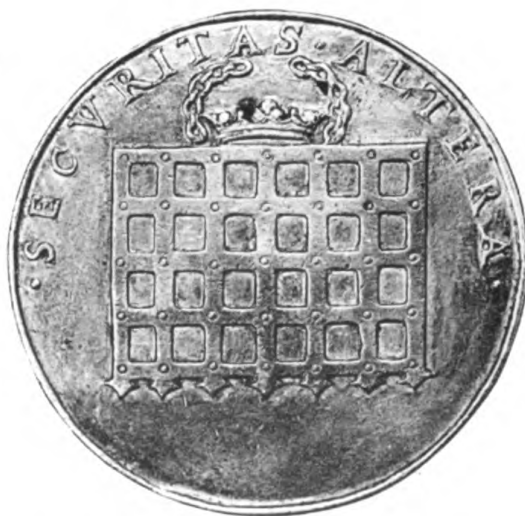


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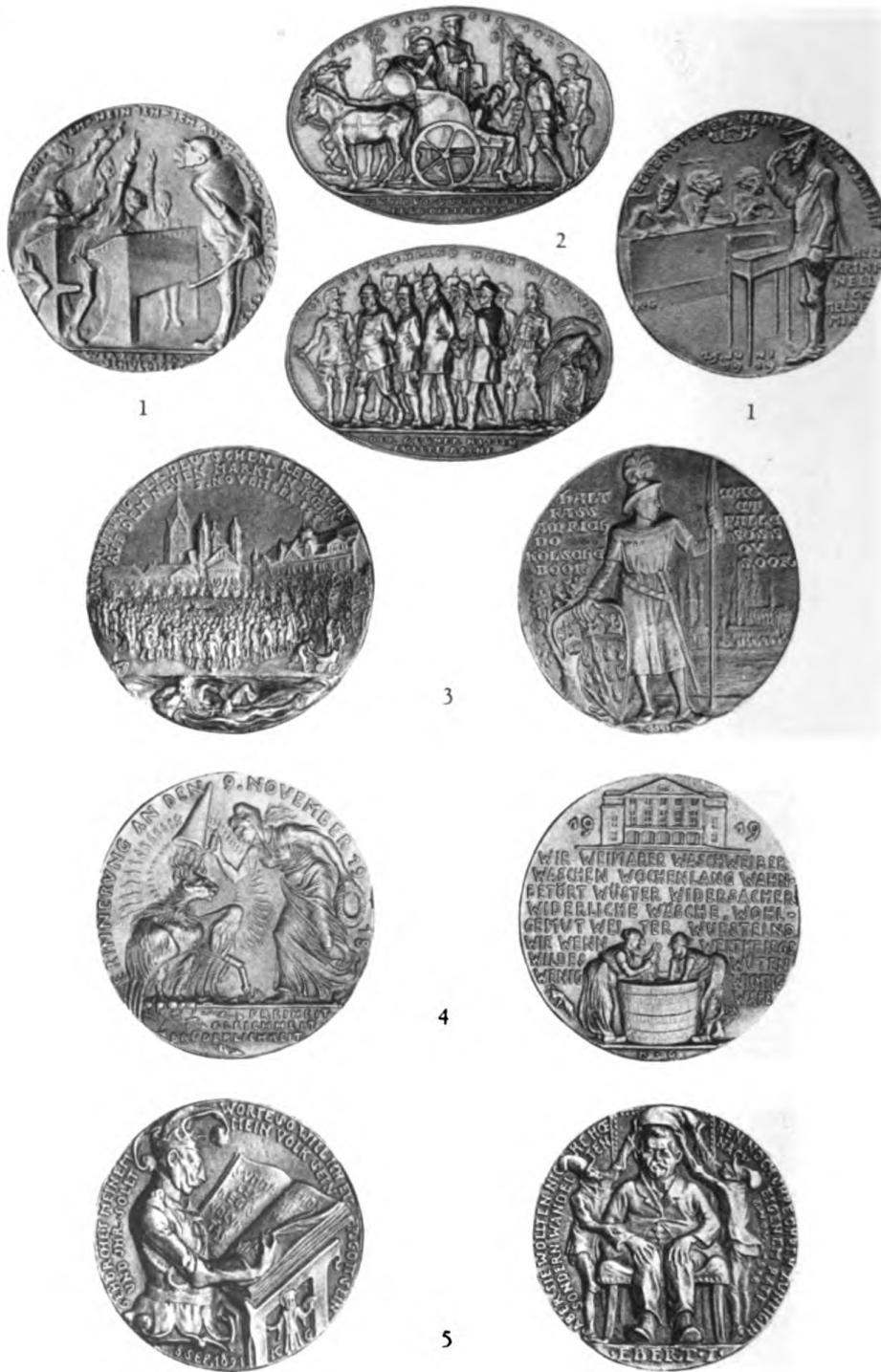


399

HETOUM-ZABEL TRAMS



GERMAN MEDAL OF HENRY VIII OF ENGLAND



KARL GÖTZ MEDALS  
(Reduced in size)



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2



3



4



KARL GÖTZ MEDALS  
(Reduced in size)



## XLIII



1



2



3



4

KARL GÖTZ MEDALS  
(Reduced in size)











